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Leu Ile Leu Ala Lys Ile Gln Gln Gly Ser Val Ser Gly Ile Gly Thr			
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Ile Pro Leu Gln Leu Val Thr Val Ser Gly Asn Glu Thr Met Glu			
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Thr Cys Ser Lys Ile Gly Pro Pro Ser Pro Gly Asp Asp Glu Glu Glu
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Leu Ala Ser Ala Gln Leu Gly Gly Ala Pro Asn Arg Trp Glu Val Leu
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Ser Ala Thr Pro Thr Thr Ile Lys Asp Glu Ala Gly Asn Leu Val Gln
115 120 125

Ile Pro Ser Ala Ala Thr Ser Ser Gly Gln Tyr Val Leu Pro Leu Gln
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Ser Asn Gly Ala Val Ser Ser Val Gln Tyr Gln Val Ile Pro Gln Ile
165 170 175

Gln Ser Ala Asp Gly Gln Gln Val Gln Ile Gly Phe Thr Gly Ser Ser
180 185 190

Asp Asn Gly Gly Ile Asn Gln Glu Ser Ser Gln Ile Gln Ile Ile Pro
195 200 205

Gly Ser Asn Gln Thr Leu Leu Ala Ser Gly Thr Pro Ser Ala Asn Ile
210 215 220

Gln Asn Leu Ile Pro Gln Thr Gly Gln Val Gln Val Gln Gly Val Ala
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Ile Gly Gly Ser Ser Phe Pro Gly Gln Thr Gln Val Val Ala Asn Val
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Pro Leu Gly Leu Pro Gly Asn Ile Thr Phe Val Pro Ile Asn Ser Val
 260 265 270

Asp Leu Asp Ser Leu Gly Leu Ser Gly Ser Ser Gln Thr Met Thr Ala
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Gly Ile Asn Ala Asp Gly His Leu Ile Asn Thr Gly Gln Ala Met Asp
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Ser Gln Leu Pro Val Thr Ile Asp Ser Thr Gly Ile Leu Gln Gln Asn
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Asn Ile Gln Val Ser Thr Ala Gln Pro Val Val Gln His Leu Gln Leu
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Thr Pro Gln Thr Ile His Gly Val Gln Ala Ser Gly Gln Asn Ile Ser
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Gln Gln Ala Leu Gln Asn Leu Gln Leu Gln Leu Asn Pro Gly Thr Phe
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Leu Ile Gln Ala Gln Thr Val Thr Pro Ser Gly Gln Val Thr Trp Gln
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Thr Phe Gln Val Gln Gly Val Gln Asn Leu Gln Asn Leu Gln Ile Gln
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Pro	Ala	Asp	Ile	Arg	Ile	Lys	Glu	Glu	Glu	Pro	Asp	Pro	Glu	Glu	Trp	545	550	555
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Lys	Arg	Leu	Arg	Arg	Val	Ala	Cys	Thr	Cys	Pro	Asn	Cys	Lys	Glu	Gly	595	600	605
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Ile	Pro	Gly	Cys	Gly	Lys	Val	Tyr	Gly	Lys	Thr	Ser	His	Leu	Arg	Ala	625	630	635
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Tyr	Cys	Gly	Lys	Arg	Phe	Thr	Arg	Ser	Asp	Glu	Leu	Gln	Arg	His	Arg	660	665	670
Arg	Thr	His	Thr	Gly	Glu	Lys	Lys	Phe	Val	Cys	Pro	Glu	Cys	Ser	Lys	675	680	685
Arg	Phe	Met	Arg	Ser	Asp	His	Leu	Ala	Lys	His	Ile	Lys	Thr	His	Gln	690	695	700
Asn	Lys	Lys	Gly	Ile	His	Ser	Ser	Ser	Thr	Val	Leu	Ala	Ser	Val	Glu	705	710	715
Ala	Ala	Arg	Asp	Asp	Thr	Leu	Ile	Thr	Ala	Gly	Gly	Thr	Thr	Leu	Ile	725	730	735

Leu Ala Lys Ile Gln Gln Gly Ser Val Ser Gly Ile Gly Thr Val Asn
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Met Thr Ala Pro Glu Lys Pro Val Lys Gln Glu Glu Met Ala
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Ala Leu Asp Val Asp Ser Gly Gly Gly Gly Gly Gly Gly Gly Gly His
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Gly Glu Tyr Leu Gln Gln Gln Gln His Gly Asn Gly Ala Val Ala
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gcg gca gcg gcg gcc cag aca ggt gat ttg gct tct gca cag tta gga 372
Ala Ala Ala Ala Ala Gln Thr Gly Asp Leu Ala Ser Ala Gln Leu Gly
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Gly Ala Pro Asn Arg Trp Glu Val Leu Ser Ala Thr Pro Thr Thr Ile
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Lys Asp Glu Ala Gly Asn Leu Val Gln Ile Pro Ser Ala Ala Thr Ser
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Ser Gly Gln Tyr Val Leu Pro Leu Gln Asn Leu Gln Asn Gln Gln Ile
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Phe Ser Val Ala Pro Gly Ser Asp Ser Ser Asn Gly Ala Val Ser Ser
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Val Gln Tyr Gln Val Ile Pro Gln Ile Gln Ser Ala Asp Gly Gln Gln

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Gly	Lys	Lys	Lys	Gln	His	Ile	Cys	His	Ile	Pro	Gly	Cys	Gly	Lys	Val		
575					580					585					590		
tat	ggg	aag	acc	tca	cat	ctg	aga	gct	cat	ctg	cgt	tgg	cat	tct	gga	2004	
Tyr	Gly	Lys	Thr	Ser	His	Leu	Arg	Ala	His	Leu	Arg	Trp	His	Ser	Gly		
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cga	agt	gat	gaa	tta	cag	agg	cac	aga	aga	aca	cat	aca	ggg	gag	aag	2100	
Arg	Ser	Asp	Glu	Leu	Gln	Arg	His	Arg	Arg	Thr	His	Gly	Glu	Lys			
625					630					635							
aaa	ttt	gtt	tgt	cca	gaa	tgt	tca	aaa	cgc	ttt	atg	aga	agt	gac	cac	2148	
Lys	Phe	Val	Cys	Pro	Glu	Cys	Ser	Lys	Arg	Phe	Met	Arg	Ser	Asp	His		

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ctt gcc aaa cat att aaa aca cac cag aat aaa aaa ggt att cac tct			2196
Leu Ala Lys His Ile Lys Thr His Gln Asn Lys Lys Gly Ile His Ser			
655	660	665	670
agc agt aca gtg ctg gca tct gtg gaa gct gcg cga gat gat act ttg			2244
Ser Ser Thr Val Leu Ala Ser Val Glu Ala Ala Arg Asp Asp Thr Leu			
	675	680	685
att act gca gga gga aca acg ctt atc ctt gca aag att caa caa ggt			2292
Ile Thr Ala Gly Gly Thr Thr Leu Ile Leu Ala Lys Ile Gln Gln Gly			
	690	695	700
tct gtt tca ggg ata gga act gtt aat act tcc gcc acc agc aat caa			2340
Ser Val Ser Gly Ile Gly Thr Val Asn Thr Ser Ala Thr Ser Asn Gln			
	705	710	715
gat atc ctt acc aac act gaa ata cct tta cag ctt gtc aca gtt tct			2388
Asp Ile Leu Thr Asn Thr Glu Ile Pro Leu Gln Leu Val Thr Val Ser			
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Gly Asn Glu Thr Met Glu			
735	740		
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Asp Val Asp Ser Gly Gly Gly Gly Gly Gly Gly Gly Gly His Gly Glu
20          25          30

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Tyr Leu Gln Gln Gln Gln Gln His Gly Asn Gly Ala Val Ala Ala Ala
35          40          45

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Ala Ala Ala Gln Thr Gly Asp Leu Ala Ser Ala Gln Leu Gly Gly Ala
50          55          60

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Pro Asn Arg Trp Glu Val Leu Ser Ala Thr Pro Thr Thr Ile Lys Asp
65          70          75          80

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Glu Ala Gly Asn Leu Val Gln Ile Pro Ser Ala Ala Thr Ser Ser Gly
85          90          95

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Gln Tyr Val Leu Pro Leu Gln Asn Leu Gln Asn Gln Gln Ile Phe Ser
100          105          110

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Val Ala Pro Gly Ser Asp Ser Ser Asn Gly Ala Val Ser Ser Val Gln
115          120          125

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Tyr Gln Val Ile Pro Gln Ile Gln Ser Ala Asp Gly Gln Gln Val Gln
130          135          140

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Ile Gly Phe Thr Gly Ser Ser Asp Asn Gly Gly Ile Asn Gln Glu Ser
145          150          155          160

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Ser Gln Ile Gln Ile Ile Pro Gly Ser Asn Gln Thr Leu Leu Ala Ser
165          170          175

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Gly Thr Pro Ser Ala Asn Ile Gln Asn Leu Ile Pro Gln Thr Gly Gln
180          185          190

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Val Gln Val Gln Gly Val Ala Ile Gly Gly Ser Ser Phe Pro Gly Gln
195 200 205

Thr Gln Val Val Ala Asn Val Pro Leu Gly Leu Pro Gly Asn Ile Thr
210 215 220

Phe Val Pro Ile Asn Ser Val Asp Leu Asp Ser Leu Gly Leu Ser Gly
225 230 235 240

Ser Ser Gln Thr Met Thr Ala Gly Ile Asn Ala Asp Gly His Leu Ile
245 250 255

Asn Thr Gly Gln Ala Met Asp Ser Ser Asp Asn Ser Glu Arg Thr Gly
260 265 270

Glu Arg Val Ser Pro Asp Ile Asn Glu Thr Asn Thr Asp Thr Asp Leu
275 280 285

Phe Val Pro Thr Ser Ser Ser Ser Gln Leu Pro Val Thr Ile Asp Ser
290 295 300

Thr Gly Ile Leu Gln Gln Asn Thr Asn Ser Leu Thr Thr Ser Ser Gly
305 310 315 320

Gln Val His Ser Ser Asp Leu Gln Gly Asn Tyr Ile Gln Ser Pro Val
325 330 335

Ser Glu Glu Thr Gln Ala Gln Asn Ile Gln Val Ser Thr Ala Gln Pro
340 345 350

Val Val Gln His Leu Gln Leu Gln Glu Ser Gln Gln Pro Thr Ser Gln
355 360 365

Ala Gln Ile Val Gln Gly Ile Thr Pro Gln Thr Ile His Gly Val Gln
370 375 380

Ala Ser Gly Gln Asn Ile Ser Gln Gln Ala Leu Gln Asn Leu Gln Leu
385 390 395 400

Gln Leu Asn Pro Gly Thr Phe Leu Ile Gln Ala Gln Thr Val Thr Pro
405 410 415

Ser Gly Gln Val Thr Trp Gln Thr Phe Gln Val Gln Gly Val Gln Asn
420 425 430

Leu Gln Asn Leu Gln Ile Gln Asn Thr Ala Ala Gln Gln Ile Thr Leu
435 440 445

Thr Pro Val Gln Thr Leu Thr Leu Gly Gln Val Ala Ala Gly Gly Ala
450 455 460

Phe Thr Ser Thr Pro Val Ser Leu Ser Thr Gly Gln Leu Pro Asn Leu
465 470 475 480

Gln Thr Val Thr Val Asn Ser Ile Asp Ser Ala Gly Ile Gln Leu His
485 490 495

Pro Gly Glu Asn Ala Asp Ser Pro Ala Asp Ile Arg Ile Lys Glu Glu
500 505 510

Glu Pro Asp Pro Glu Glu Trp Gln Leu Ser Gly Asp Ser Thr Leu Asn
515 520 525

Thr Asn Asp Leu Thr His Leu Arg Val Gln Val Val Asp Glu Glu Gly
530 535 540

Asp Gln Gln His Gln Glu Gly Lys Arg Leu Arg Arg Val Ala Cys Thr
545 550 555 560

Cys Pro Asn Cys Lys Glu Gly Gly Gly Arg Gly Thr Asn Leu Gly Lys
565 570 575

Lys Lys Gln His Ile Cys His Ile Pro Gly Cys Gly Lys Val Tyr Gly
580 585 590

Lys Thr Ser His Leu Arg Ala His Leu Arg Trp His Ser Gly Glu Arg
595 600 605

Pro Phe Val Cys Asn Trp Met Tyr Cys Gly Lys Arg Phe Thr Arg Ser
610 615 620

Asp Glu Leu Gln Arg His Arg Arg Thr His Thr Gly Glu Lys Lys Phe
625 630 635 640

Val Cys Pro Glu Cys Ser Lys Arg Phe Met Arg Ser Asp His Leu Ala
645 650 655

Lys His Ile Lys Thr His Gln Asn Lys Lys Gly Ile His Ser Ser Ser
660 665 670

Thr Val Leu Ala Ser Val Glu Ala Ala Arg Asp Asp Thr Leu Ile Thr
675 680 685

Ala Gly Gly Thr Thr Leu Ile Leu Ala Lys Ile Gln Gln Gly Ser Val
690 695 700

Ser Gly Ile Gly Thr Val Asn Thr Ser Ala Thr Ser Asn Gln Asp Ile
705 710 715 720

Leu Thr Asn Thr Glu Ile Pro Leu Gln Leu Val Thr Val Ser Gly Asn
725 730 735

Glu Thr Met Glu
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<213> Homo sapiens

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tgggctggcg gcgggaccag gaggaggagg aggaggagga ggagagcgcg ggctggcgct 180
tgcccggggc cagtcggcgg ggaccgagtc gtacttcctg tgcgaaaggc ggcccgacct 240
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cagcgcgtcac cgctcgctct gctggccgct acctgcagca agatagggcc gccatcgccg 360
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aatgtgcctc ttggtctgcc aggaaatatt acgtttgtac caatcaatag tgtcgatcta 960
gattcttttg gactctcggg cagttctcag aca atg act gca ggc att aat gcc 1014
Met Thr Ala Gly Ile Asn Ala
1 5
gac gga cat ttg ata aac aca gga caa gct atg gat agt tca gac aat 1062
Asp Gly His Leu Ile Asn Thr Gly Gln Ala Met Asp Ser Ser Asp Asn

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tca gaa agg act ggt gag cgg gtt tct cct gat att aat gaa act aat Ser Glu Arg Thr Gly Glu Arg Val Ser Pro Asp Ile Asn Glu Thr Asn 25 30 35			1110
act gat aca gat tta ttt gtg cca aca tcc tct tca tca cag ttg cct Thr Asp Thr Asp Leu Phe Val Pro Thr Ser Ser Ser Ser Gln Leu Pro 40 45 50 55			1158
gtt acg ata gat agt aca ggt ata tta caa caa aac aca aat agc ttg Val Thr Ile Asp Ser Thr Gly Ile Leu Gln Gln Asn Thr Asn Ser Leu 60 65 70			1206
act aca tct agt ggg cag gtt cat tct tca gat ctt cag gga aat tat Thr Thr Ser Ser Gly Gln Val His Ser Ser Asp Leu Gln Gly Asn Tyr 75 80 85			1254
atc cag tcg cct gtt tct gaa gag aca cag gca cag aat att cag gtt Ile Gln Ser Pro Val Ser Glu Glu Thr Gln Ala Gln Asn Ile Gln Val 90 95 100			1302
tct aca gca cag cct gtt gta cag cat cta caa ctt caa gag tct cag Ser Thr Ala Gln Pro Val Val Gln His Leu Gln Leu Gln Glu Ser Gln 105 110 115			1350
cag cca acc agt caa gcc caa att gtg caa ggt att aca cca cag aca Gln Pro Thr Ser Gln Ala Gln Ile Val Gln Gly Ile Thr Pro Gln Thr 120 125 130 135			1398
atc cat ggt gtg caa gcc agt ggt caa aat ata tca caa cag gct ttg Ile His Gly Val Gln Ala Ser Gly Gln Asn Ile Ser Gln Gln Ala Leu 140 145 150			1446
caa aat ctt cag ttg cag ctg aat cct gga acc ttt tta att cag gca Gln Asn Leu Gln Leu Gln Leu Asn Pro Gly Thr Phe Leu Ile Gln Ala 155 160 165			1494
cag aca gtg acc cct tct gga cag gta act tgg caa acg ttt caa gta Gln Thr Val Thr Pro Ser Gly Gln Val Thr Trp Gln Thr Phe Gln Val 170 175 180			1542
caa ggg gtc cag aac ttg cag aat ttg caa ata cag aat act gct gcc Gln Gly Val Gln Asn Leu Gln Asn Leu Gln Ile Gln Asn Thr Ala Ala 185 190 195			1590
caa caa ata act ttg acg cct gtt caa acc ctc aca ctt ggt caa gtt Gln Gln Ile Thr Leu Thr Pro Val Gln Thr Leu Thr Leu Gly Gln Val 200 205 210 215			1638
gcg gca ggt gga gcc ttc act tca act cca gtt agt cta agc act ggt Ala Ala Gly Gly Ala Phe Thr Ser Thr Pro Val Ser Leu Ser Thr Gly 220 225 230			1686
cag ttg cca aat cta caa aca gtt aca gtg aac tct ata gat tct gct Gln Leu Pro Asn Leu Gln Thr Val Thr Val Asn Ser Ile Asp Ser Ala 235 240 245			1734
ggt ata cag cta cat cca gga gag aat gct gac agt cct gca gat att Gly Ile Gln Leu His Pro Gly Glu Asn Ala Asp Ser Pro Ala Asp Ile 250 255 260			1782
agg atc aag gaa gaa gaa cct gat cct gaa gag tgg cag ctc agt ggt Arg Ile Lys Glu Glu Glu Pro Asp Pro Glu Glu Trp Gln Leu Ser Gly			1830

265	270	275	
gat tct acc ttg aat acc aat gac cta aca cac tta aga gta cag gtg			1878
Asp Ser Thr Leu Asn Thr Asn Asp Leu Thr His Leu Arg Val Gln Val			
280	285	290	295
gta gat gaa gaa ggg gac caa caa cat caa gaa gga aaa aga ctt cgg			1926
Val Asp Glu Glu Gly Asp Gln Gln His Gln Glu Gly Lys Arg Leu Arg			
	300	305	310
agg gta gct tgc acc tgt ccc aac tgt aaa gaa ggt ggt gga aga ggt			1974
Arg Val Ala Cys Thr Cys Pro Asn Cys Lys Glu Gly Gly Gly Arg Gly			
	315	320	325
acc aat ctt ggg aaa aag aag caa cac att tgt cat ata cca gga tgt			2022
Thr Asn Leu Gly Lys Lys Lys Gln His Ile Cys His Ile Pro Gly Cys			
	330	335	340
ggt aaa gtc tat ggg aag acc tca cat ctg aga gct cat ctg cgt tgg			2070
Gly Lys Val Tyr Gly Lys Thr Ser His Leu Arg Ala His Leu Arg Trp			
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cat tct gga gaa cgc cct ttt gtt tgt aac tgg atg tac tgt ggt aaa			2118
His Ser Gly Glu Arg Pro Phe Val Cys Asn Trp Met Tyr Cys Gly Lys			
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aga ttt act cga agt gat gaa tta cag agg cac aga aga aca cat aca			2166
Arg Phe Thr Arg Ser Asp Glu Leu Gln Arg His Arg Arg Thr His Thr			
	380	385	390
ggt gag aag aaa ttt gtt tgt cca gaa tgt tca aaa cgc ttt atg aga			2214
Gly Glu Lys Lys Phe Val Cys Pro Glu Cys Ser Lys Arg Phe Met Arg			
	395	400	405
agt gac cac ctt gcc aaa cat att aaa aca cac cag aat aaa aaa ggt			2262
Ser Asp His Leu Ala Lys His Ile Lys Thr His Gln Asn Lys Lys Gly			
	410	415	420
att cac tct agc agt aca gtg ctg gca tct gtg gaa gct gcg cga gat			2310
Ile His Ser Ser Ser Thr Val Leu Ala Ser Val Glu Ala Ala Arg Asp			
	425	430	435
gat act ttg att act gca gga gga aca acg ctt atc ctt gca aag att			2358
Asp Thr Leu Ile Thr Ala Gly Gly Thr Thr Leu Ile Leu Ala Lys Ile			
	440	445	455
caa caa ggt tct gtt tca ggg ata gga act gtt aat act tcc gcc acc			2406
Gln Gln Gly Ser Val Ser Gly Ile Gly Thr Val Asn Thr Ser Ala Thr			
	460	465	470
agc aat caa gat atc ctt acc aac act gaa ata cct tta cag ctt gtc			2454
Ser Asn Gln Asp Ile Leu Thr Asn Thr Glu Ile Pro Leu Gln Leu Val			
	475	480	485
aca gtt tct gga aat gag aca atg gag taaatattac acaaatactt			2501
Thr Val Ser Gly Asn Glu Thr Met Glu			
	490	495	
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<213> Homo sapiens

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Ala Met Asp Ser Ser Asp Asn Ser Glu Arg Thr Gly Glu Arg Val Ser
20          25          30

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Pro Asp Ile Asn Glu Thr Asn Thr Asp Thr Asp Leu Phe Val Pro Thr
35          40          45

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Ser Ser Ser Ser Gln Leu Pro Val Thr Ile Asp Ser Thr Gly Ile Leu
50          55          60

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Gln Gln Asn Thr Asn Ser Leu Thr Thr Ser Ser Gly Gln Val His Ser
65 70 75 80

Ser Asp Leu Gln Gly Asn Tyr Ile Gln Ser Pro Val Ser Glu Glu Thr
85 90 95

Gln Ala Gln Asn Ile Gln Val Ser Thr Ala Gln Pro Val Val Gln His
100 105 110

Leu Gln Leu Gln Glu Ser Gln Gln Pro Thr Ser Gln Ala Gln Ile Val
115 120 125

Gln Gly Ile Thr Pro Gln Thr Ile His Gly Val Gln Ala Ser Gly Gln
130 135 140

Asn Ile Ser Gln Gln Ala Leu Gln Asn Leu Gln Leu Gln Leu Asn Pro
145 150 155 160

Gly Thr Phe Leu Ile Gln Ala Gln Thr Val Thr Pro Ser Gly Gln Val
165 170 175

Thr Trp Gln Thr Phe Gln Val Gln Gly Val Gln Asn Leu Gln Asn Leu
180 185 190

Gln Ile Gln Asn Thr Ala Ala Gln Gln Ile Thr Leu Thr Pro Val Gln
195 200 205

Thr Leu Thr Leu Gly Gln Val Ala Ala Gly Gly Ala Phe Thr Ser Thr
210 215 220

Pro Val Ser Leu Ser Thr Gly Gln Leu Pro Asn Leu Gln Thr Val Thr
225 230 235 240

Val Asn Ser Ile Asp Ser Ala Gly Ile Gln Leu His Pro Gly Glu Asn
245 250 255

Ala Asp Ser Pro Ala Asp Ile Arg Ile Lys Glu Glu Glu Pro Asp Pro
260 265 270

Glu Glu Trp Gln Leu Ser Gly Asp Ser Thr Leu Asn Thr Asn Asp Leu
275 280 285

Thr His Leu Arg Val Gln Val Val Asp Glu Glu Gly Asp Gln Gln His
290 295 300

Gln Glu Gly Lys Arg Leu Arg Arg Val Ala Cys Thr Cys Pro Asn Cys
305 310 315 320

Lys Glu Gly Gly Gly Arg Gly Thr Asn Leu Gly Lys Lys Lys Gln His
 325 330 335

Ile Cys His Ile Pro Gly Cys Gly Lys Val Tyr Gly Lys Thr Ser His
 340 345 350

Leu Arg Ala His Leu Arg Trp His Ser Gly Glu Arg Pro Phe Val Cys
 355 360 365

Asn Trp Met Tyr Cys Gly Lys Arg Phe Thr Arg Ser Asp Glu Leu Gln
 370 375 380

Arg His Arg Arg Thr His Thr Gly Glu Lys Lys Phe Val Cys Pro Glu
 385 390 395 400

Cys Ser Lys Arg Phe Met Arg Ser Asp His Leu Ala Lys His Ile Lys
 405 410 415

Thr His Gln Asn Lys Lys Gly Ile His Ser Ser Ser Thr Val Leu Ala
 420 425 430

Ser Val Glu Ala Ala Arg Asp Asp Thr Leu Ile Thr Ala Gly Gly Thr
 435 440 445

Thr Leu Ile Leu Ala Lys Ile Gln Gln Gly Ser Val Ser Gly Ile Gly
 450 455 460

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 Leu Ala Arg Leu Pro Pro Phe Cys Ala Arg Asp Thr Gln Pro Ser Pro

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Leu Ala Leu Leu Ala Ala Thr Cys Ser Lys Ile Gly Pro Pro Ser Pro															
35 40 45															
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Gly Asp Asp Glu Glu Glu Ala Ala Ala Ala Ala Gly Ala Pro Ala Ala															
50 55 60															
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Ala Gly Ala Thr Gly Asp Leu Ala Ser Ala Gln Leu Gly Gly Ala Pro															
65 70 75 80															
aac cga tgg gag gtt ttg tca gcc aca cct aca act ata aaa gat gaa	289														
Asn Arg Trp Glu Val Leu Ser Ala Thr Pro Thr Thr Ile Lys Asp Glu															
85 90 95															
gct ggt aat cta gtc cag att cca agt gct gct act tca agt ggg cag	337														
Ala Gly Asn Leu Val Gln Ile Pro Ser Ala Ala Thr Ser Ser Gly Gln															
100 105 110															
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Tyr Val Leu Pro Leu Gln Asn Leu Gln Asn Gln Gln Ile Phe Ser Val															
115 120 125															
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Gln Val Ile Pro Gln Ile Gln Ser Ala Asp Gly Gln Gln Val Gln Ile															
145 150 155 160															
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Gly Phe Thr Gly Ser Ser Asp Asn Gly Gly Ile Asn Gln Glu Ser Ser															
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Gln Ile Gln Ile Ile Pro Gly Ser Asn Gln Thr Leu Leu Ala Ser Gly															
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Thr Pro Ser Ala Asn Ile Gln Asn Leu Ile Pro Gln Thr Gly Gln Val															
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Gln Val Gln Gly Val Ala Ile Gly Gly Ser Ser Phe Pro Gly Gln Thr															
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Gln Val Val Ala Asn Val Pro Leu Gly Leu Pro Gly Asn Ile Thr Phe															
225 230 235 240															
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Val Pro Ile Asn Ser Val Asp Leu Asp Ser Leu Gly Leu Ser Gly Ser															
245 250 255															
tct cag aca atg act gca ggc att aat gcc gac gga cat ttg ata aac	817														
Ser Gln Thr Met Thr Ala Gly Ile Asn Ala Asp Gly His Leu Ile Asn															
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275					280					285					
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Val Pro Thr Ser Ser Ser Ser Gln Leu Pro Val Thr Ile Asp Ser Thr															
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Gln Asn Leu Gln Ile Gln Asn Thr Ala Ala Gln Gln Ile Thr Leu Thr															
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Pro Val Gln Thr Leu Thr Leu Gly Gln Val Ala Ala Gly Gly Ala Phe															
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Thr Ser Thr Pro Val Ser Leu Ser Thr Gly Gln Leu Pro Asn Leu Gln															
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Gly Glu Asn Ala Asp Ser Pro Ala Asp Ile Arg Ile Lys Glu Glu Glu															
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Pro Asp Pro Glu Glu Trp Gln Leu Ser Gly Asp Ser Thr Leu Asn Thr															

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caa caa cat caa gaa gga aaa aga ctt cgg agg gta gct tgc acc tgt Gln Gln His Gln Glu Gly Lys Arg Leu Arg Arg Val Ala Cys Thr Cys 565 570 575			1729
ccc aac tgt aaa gaa ggt ggt gga aga ggt acc aat ctt ggg aaa aag Pro Asn Cys Lys Glu Gly Gly Gly Arg Gly Thr Asn Leu Gly Lys Lys 580 585 590			1777
aag caa cac att tgt cat ata cca gga tgt ggt aaa gtc tat ggg aag Lys Gln His Ile Cys His Ile Pro Gly Cys Gly Lys Val Tyr Gly Lys 595 600 605			1825
acc tca cat ctg aga gct cat ctg cgt tgg cat tct gga gaa cgc cct Thr Ser His Leu Arg Ala His Leu Arg Trp His Ser Gly Glu Arg Pro 610 615 620			1873
ttt gtt tgt aac tgg atg tac tgt ggt aaa aga ttt act cga agt gat Phe Val Cys Asn Trp Met Tyr Cys Gly Lys Arg Phe Thr Arg Ser Asp 625 630 635 640			1921
gaa tta cag agg cac aga aga aca cat aca ggt gag aag aaa ttt gtt Glu Leu Gln Arg His Arg Arg Thr His Thr Gly Glu Lys Lys Phe Val 645 650 655			1969
tgt cca gaa tgt tca aaa cgc ttt atg aga agt gac cac ctt gcc aaa Cys Pro Glu Cys Ser Lys Arg Phe Met Arg Ser Asp His Leu Ala Lys 660 665 670			2017
cat att aaa aca cac cag aat aaa aaa ggt att cac tct agc agt aca His Ile Lys Thr His Gln Asn Lys Lys Gly Ile His Ser Ser Ser Thr 675 680 685			2065
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<212> PRT
<213> Homo sapiens

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Leu Ala Arg Leu Pro Pro Phe Cys Ala Arg Asp Thr Gln Pro Ser Pro
20          25          30

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Leu Ala Leu Leu Ala Ala Thr Cys Ser Lys Ile Gly Pro Pro Ser Pro
35          40          45

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Gly Asp Asp Glu Glu Glu Ala Ala Ala Ala Ala Gly Ala Pro Ala Ala
50          55          60

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Ala Gly Ala Thr Gly Asp Leu Ala Ser Ala Gln Leu Gly Gly Ala Pro
65 70 75 80

Asn Arg Trp Glu Val Leu Ser Ala Thr Pro Thr Thr Ile Lys Asp Glu
85 90 95

Ala Gly Asn Leu Val Gln Ile Pro Ser Ala Ala Thr Ser Ser Gly Gln
100 105 110

Tyr Val Leu Pro Leu Gln Asn Leu Gln Asn Gln Gln Ile Phe Ser Val
115 120 125

Ala Pro Gly Ser Asp Ser Ser Asn Gly Ala Val Ser Ser Val Gln Tyr
130 135 140

Gln Val Ile Pro Gln Ile Gln Ser Ala Asp Gly Gln Gln Val Gln Ile
145 150 155 160

Gly Phe Thr Gly Ser Ser Asp Asn Gly Gly Ile Asn Gln Glu Ser Ser
165 170 175

Gln Ile Gln Ile Ile Pro Gly Ser Asn Gln Thr Leu Leu Ala Ser Gly
180 185 190

Thr Pro Ser Ala Asn Ile Gln Asn Leu Ile Pro Gln Thr Gly Gln Val
195 200 205

Gln Val Gln Gly Val Ala Ile Gly Gly Ser Ser Phe Pro Gly Gln Thr
210 215 220

Gln Val Val Ala Asn Val Pro Leu Gly Leu Pro Gly Asn Ile Thr Phe
225 230 235 240

Val Pro Ile Asn Ser Val Asp Leu Asp Ser Leu Gly Leu Ser Gly Ser
245 250 255

Ser Gln Thr Met Thr Ala Gly Ile Asn Ala Asp Gly His Leu Ile Asn
260 265 270

Thr Gly Gln Ala Met Asp Ser Ser Asp Asn Ser Glu Arg Thr Gly Glu
275 280 285

Arg Val Ser Pro Asp Ile Asn Glu Thr Asn Thr Asp Thr Asp Leu Phe
290 295 300

Val Pro Thr Ser Ser Ser Ser Gln Leu Pro Val Thr Ile Asp Ser Thr
305 310 315 320

Gly Ile Leu Gln Gln Asn Thr Asn Ser Leu Thr Thr Ser Ser Gly Gln
325 330 335

Val His Ser Ser Asp Leu Gln Gly Asn Tyr Ile Gln Ser Pro Val Ser
340 345 350

Glu Glu Thr Gln Ala Gln Asn Ile Gln Val Ser Thr Ala Gln Pro Val
355 360 365

Val Gln His Leu Gln Leu Gln Glu Ser Gln Gln Pro Thr Ser Gln Ala
370 375 380

Gln Ile Val Gln Gly Ile Thr Pro Gln Thr Ile His Gly Val Gln Ala
385 390 395 400

Ser Gly Gln Asn Ile Ser Gln Gln Ala Leu Gln Asn Leu Gln Leu Gln
405 410 415

Leu Asn Pro Gly Thr Phe Leu Ile Gln Ala Gln Thr Val Thr Pro Ser
420 425 430

Gly Gln Val Thr Trp Gln Thr Phe Gln Val Gln Gly Val Gln Asn Leu
435 440 445

Gln Asn Leu Gln Ile Gln Asn Thr Ala Ala Gln Gln Ile Thr Leu Thr
450 455 460

Pro Val Gln Thr Leu Thr Leu Gly Gln Val Ala Ala Gly Gly Ala Phe
465 470 475 480

Thr Ser Thr Pro Val Ser Leu Ser Thr Gly Gln Leu Pro Asn Leu Gln
485 490 495

Thr Val Thr Val Asn Ser Ile Asp Ser Ala Gly Ile Gln Leu His Pro
500 505 510

Gly Glu Asn Ala Asp Ser Pro Ala Asp Ile Arg Ile Lys Glu Glu Glu
515 520 525

Pro Asp Pro Glu Glu Trp Gln Leu Ser Gly Asp Ser Thr Leu Asn Thr
530 535 540

Asn Asp Leu Thr His Leu Arg Val Gln Val Val Asp Glu Glu Gly Asp
545 550 555 560

Gln Gln His Gln Glu Gly Lys Arg Leu Arg Arg Val Ala Cys Thr Cys
565 570 575

Pro Asn Cys Lys Glu Gly Gly Gly Arg Gly Thr Asn Leu Gly Lys Lys
 580 585 590

Lys Gln His Ile Cys His Ile Pro Gly Cys Gly Lys Val Tyr Gly Lys
 595 600 605

Thr Ser His Leu Arg Ala His Leu Arg Trp His Ser Gly Glu Arg Pro
 610 615 620

Phe Val Cys Asn Trp Met Tyr Cys Gly Lys Arg Phe Thr Arg Ser Asp
 625 630 635 640

Glu Leu Gln Arg His Arg Arg Thr His Thr Gly Glu Lys Lys Phe Val
 645 650 655

Cys Pro Glu Cys Ser Lys Arg Phe Met Arg Ser Asp His Leu Ala Lys
 660 665 670

His Ile Lys Thr His Gln Asn Lys Lys Gly Ile His Ser Ser Ser Thr
 675 680 685

Val Leu Ala Ser Val Glu Ala Ala Arg Asp Asp Thr Leu Ile Thr Ala
 690 695 700

Gly Gly Thr Thr Leu Ile Leu Ala Lys Ile Gln Gln Gly Ser Val Ser
 705 710 715 720

Gly Ile Gly Thr Val Asn Thr Ser Ala Thr Ser Asn Gln Asp Ile Leu
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Thr Met Glu
 755

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ttg agc aaa ccc aca gaa aag aag gac cgt gta cat cat gag cct cag Leu Ser Lys Pro Thr Glu Lys Lys Asp Arg Val His His Glu Pro Gln 20 25 30	155
ctc agt gac aag gtt cac aat gat gct cag agt ttt gat tat gac cat Leu Ser Asp Lys Val His Asn Asp Ala Gln Ser Phe Asp Tyr Asp His 35 40 45	203
gat gcc ttc ttg ggt gct gaa gaa gca aag acc ttt gat cag ctg aca Asp Ala Phe Leu Gly Ala Glu Glu Ala Lys Thr Phe Asp Gln Leu Thr 50 55 60 65	251
cca gaa gag agc aag gaa agg ctt gga atg att gta gat aaa ata gac Pro Glu Glu Ser Lys Glu Arg Leu Gly Met Ile Val Asp Lys Ile Asp 70 75 80	299
gcg gat aaa gat ggg ttt gtg acg gag ggg gag ctg aaa tcc tgg att Ala Asp Lys Asp Gly Phe Val Thr Glu Gly Glu Leu Lys Ser Trp Ile 85 90 95	347
aag cac gcc cag aag aaa tac ata tat gac aat gtt gaa aac caa tgg Lys His Ala Gln Lys Lys Tyr Ile Tyr Asp Asn Val Glu Asn Gln Trp 100 105 110	395
cag gag ttt gat atg aat caa gac ggc tta atc tcc tgg gat gag tac Gln Glu Phe Asp Met Asn Gln Asp Gly Leu Ile Ser Trp Asp Glu Tyr 115 120 125	443
aga aac gtg act tat ggc act tac ctg gat gat cca gat cct gat gat Arg Asn Val Thr Tyr Gly Thr Tyr Leu Asp Asp Pro Asp Pro Asp Asp 130 135 140 145	491
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gct ttc ctg cac cct gag gag tat gac tac atg aaa gat ata gta gta Ala Phe Leu His Pro Glu Glu Tyr Asp Tyr Met Lys Asp Ile Val Val 180 185 190	635
cag gaa aca atg gaa gat ata gat aag aat gct gat ggt ttc att gat Gln Glu Thr Met Glu Asp Ile Asp Lys Asn Ala Asp Gly Phe Ile Asp 195 200 205	683
cta gaa gag tat att ggt gac atg tac agc cat gat ggg aat act gat Leu Glu Glu Tyr Ile Gly Asp Met Tyr Ser His Asp Gly Asn Thr Asp 210 215 220 225	731
gag cca gaa tgg gta aag aca gag cga gag cag ttt gtt gag ttt cgg Glu Pro Glu Trp Val Lys Thr Glu Arg Glu Gln Phe Val Glu Phe Arg 230 235 240	779
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Ile Leu Pro Ser Asp Tyr Asp His Ala Glu Ala Glu Ala Arg His Leu			
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gtc tat gaa tca gac caa aac aag gat ggc aag ctt acc aag gag gag			923
Val Tyr Glu Ser Asp Gln Asn Lys Asp Gly Lys Leu Thr Lys Glu Glu			
275	280	285	
atc gtt gac aag tat gac tta ttt gtt ggc agc cag gcc aca gat ttt			971
Ile Val Asp Lys Tyr Asp Leu Phe Val Gly Ser Gln Ala Thr Asp Phe			
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ggg gag gcc tta gta cgg cat gat gag ttc tgagctacgg aggaaccctc			1021
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<212> PRT
<213> Homo sapiens

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<400> 12

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Ala Leu Ser Lys Pro Thr Glu Lys Lys Asp Arg Val His His Glu Pro
          20          25          30

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Gln Leu Ser Asp Lys Val His Asn Asp Ala Gln Ser Phe Asp Tyr Asp
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His Asp Ala Phe Leu Gly Ala Glu Glu Ala Lys Thr Phe Asp Gln Leu
          50          55          60

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Thr Pro Glu Glu Ser Lys Glu Arg Leu Gly Met Ile Val Asp Lys Ile
65          70          75          80

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Asp Ala Asp Lys Asp Gly Phe Val Thr Glu Gly Glu Leu Lys Ser Trp
          85          90          95

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Ile	Lys	His	Ala	Gln	Lys	Lys	Tyr	Ile	Tyr	Asp	Asn	Val	Glu	Asn	Gln
			100					105					110		
Trp	Gln	Glu	Phe	Asp	Met	Asn	Gln	Asp	Gly	Leu	Ile	Ser	Trp	Asp	Glu
		115					120					125			
Tyr	Arg	Asn	Val	Thr	Tyr	Gly	Thr	Tyr	Leu	Asp	Asp	Pro	Asp	Pro	Asp
	130					135					140				
Asp	Gly	Phe	Asn	Tyr	Lys	Gln	Met	Met	Val	Arg	Asp	Glu	Arg	Arg	Phe
145					150					155					160
Lys	Met	Ala	Asp	Lys	Asp	Gly	Asp	Leu	Ile	Ala	Thr	Lys	Glu	Glu	Phe
				165					170					175	
Thr	Ala	Phe	Leu	His	Pro	Glu	Glu	Tyr	Asp	Tyr	Met	Lys	Asp	Ile	Val
			180					185					190		
Val	Gln	Glu	Thr	Met	Glu	Asp	Ile	Asp	Lys	Asn	Ala	Asp	Gly	Phe	Ile
		195					200					205			
Asp	Leu	Glu	Glu	Tyr	Ile	Gly	Asp	Met	Tyr	Ser	His	Asp	Gly	Asn	Thr
	210					215					220				
Asp	Glu	Pro	Glu	Trp	Val	Lys	Thr	Glu	Arg	Glu	Gln	Phe	Val	Glu	Phe
225					230					235					240
Arg	Asp	Lys	Asn	Arg	Asp	Gly	Lys	Met	Asp	Lys	Glu	Glu	Thr	Lys	Asp
				245					250					255	
Trp	Ile	Leu	Pro	Ser	Asp	Tyr	Asp	His	Ala	Glu	Ala	Glu	Ala	Arg	His
			260					265					270		
Leu	Val	Tyr	Glu	Ser	Asp	Gln	Asn	Lys	Asp	Gly	Lys	Leu	Thr	Lys	Glu
		275					280					285			
Glu	Ile	Val	Asp	Lys	Tyr	Asp	Leu	Phe	Val	Gly	Ser	Gln	Ala	Thr	Asp
	290					295					300				
Phe	Gly	Glu	Ala	Leu	Val	Arg	His	Asp	Glu	Phe					
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<223>

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agcgccagcg	tgtgcgccct	ggtggcgggg	gtggtgctgg	ctcagtacat	attcaccttg	180
aagaggaaga	cggggcgga	gaccaagatc	atcgagatga	agattggata	accaagaa	238
atg act aat caa gag tct gcc gta cat gtg aaa atg atg cca gaa ttc	286					
Met Thr Asn Gln Glu Ser Ala Val His Val Lys Met Met Pro Glu Phe						
1 5 10 15						
cag aaa agt tca gtt cga atc aag aac cct aca aga gta gaa gaa att	334					
Gln Lys Ser Ser Val Arg Ile Lys Asn Pro Thr Arg Val Glu Glu Ile						
20 25 30						
atc tgt ggt ctt atc aaa gga gga gct gcc aaa ctt cag ata ata acg	382					
Ile Cys Gly Leu Ile Lys Gly Gly Ala Ala Lys Leu Gln Ile Ile Thr						
35 40 45						
gac ttt gat atg aca ctc agt aga ttt tca tat aaa ggg aaa aga tgc	430					
Asp Phe Asp Met Thr Leu Ser Arg Phe Ser Tyr Lys Gly Lys Arg Cys						
50 55 60						
cca aca tgt cat aat atc att gac aac tgt aag ctg gtt aca gat gaa	478					
Pro Thr Cys His Asn Ile Ile Asp Asn Cys Lys Leu Val Thr Asp Glu						
65 70 75 80						
tgt aga aaa aag tta ttg caa cta aag gaa aaa tac tac gct att gaa	526					
Cys Arg Lys Lys Leu Leu Gln Leu Lys Glu Lys Tyr Tyr Ala Ile Glu						
85 90 95						
gtt gat cct gtt ctt act gta gaa gag aag tac cct tat atg gtg gaa	574					
Val Asp Pro Val Leu Thr Val Glu Glu Lys Tyr Pro Tyr Met Val Glu						
100 105 110						
tgg tat act aaa tca cat ggt ttg ctt gtt cag caa gct tta cca aaa	622					
Trp Tyr Thr Lys Ser His Gly Leu Leu Val Gln Gln Ala Leu Pro Lys						
115 120 125						
gct aaa ctt aaa gaa att gtg gca gaa tct gac gtt atg ctc aaa gaa	670					
Ala Lys Leu Lys Glu Ile Val Ala Glu Ser Asp Val Met Leu Lys Glu						
130 135 140						
gga tat gag aat ttc ttt gat aag ctc caa caa cat agc atc ccc gtg	718					
Gly Tyr Glu Asn Phe Phe Asp Lys Leu Gln Gln His Ser Ile Pro Val						
145 150 155 160						
ttc ata ttt tcg gct gga atc ggc gat gta cta gag gaa gtt att cgt	766					
Phe Ile Phe Ser Ala Gly Ile Gly Asp Val Leu Glu Glu Val Ile Arg						
165 170 175						
caa gct ggt gtt tat cat ccc aat gtc aaa gtt gtg tcc aat ttt atg	814					
Gln Ala Gly Val Tyr His Pro Asn Val Lys Val Val Ser Asn Phe Met						
180 185 190						
gat ttt gat gaa act ggg gtg ctc aaa gga ttt aaa gga gaa cta att	862					
Asp Phe Asp Glu Thr Gly Val Leu Lys Gly Phe Lys Gly Glu Leu Ile						
195 200 205						

cat gta ttt aac aaa cat gat ggt gcc ttg agg aat aca gaa tat ttc	910
His Val Phe Asn Lys His Asp Gly Ala Leu Arg Asn Thr Glu Tyr Phe	
210 215 220	

aat caa cta aaa gac aat agt aac ata att ctt ctg gga gac tcc caa	958
Asn Gln Leu Lys Asp Asn Ser Asn Ile Ile Leu Leu Gly Asp Ser Gln	
225 230 235 240	

gga gac tta aga atg gca gat gga gtg gcc aat gtt gag cac att ctg	1006
Gly Asp Leu Arg Met Ala Asp Gly Val Ala Asn Val Glu His Ile Leu	
245 250 255	

aaa att gga tat cta aat gat aga gtg gat gag ctt tta gaa aag tac	1054
Lys Ile Gly Tyr Leu Asn Asp Arg Val Asp Glu Leu Leu Glu Lys Tyr	
260 265 270	

atg gac tct tat gat att gtt tta gta caa gat gaa tca tta gaa gta	1102
Met Asp Ser Tyr Asp Ile Val Leu Val Gln Asp Glu Ser Leu Glu Val	
275 280 285	

gcc aac tct att tta cag aag att cta taaacaagca ttctccaaga	1149
Ala Asn Ser Ile Leu Gln Lys Ile Leu	
290 295	

agacctctct cctgtgggtg caattgaact gttcatccgt tcattcttgct gagagactta	1209
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tttataatat atccttactc tcgaagtgtt ccctttgtat aactgaagta ttttcagata	1269
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tggtgaatgc attgactgga agctcctttt ctccacctct ctcaacacac tcctcaccgt	1329
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atcttttaac ccatttaaaa aaaaaaaaaa gctaaaatta gaaaaataac tccctacttt	1389
-------------------------------------------------------------------	------

tcctaaagtga attttgtagt ttaattgttat catgcagctt ttgaggagtc ttttacactg	1449
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ggaaagtttg tagaaatttt aaaataagtt ttatgaaatg gtgaaataat atgcatgatt	1509
-------------------------------------------------------------------	------

ttaagtattg ccattttttgt aatttggtt attatgctga tggatcacc atctcttgaa	1569
------------------------------------------------------------------	------

attgtgttag gtttggttat tttgtctggg gaaaaaatat ttactggaaa agactagcag	1629
-------------------------------------------------------------------	------

ttagtgttg gaaaaacctgg tgggtgtttac aatgttgcta atcattacaa aacattctat	1689
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 <212> PRT
 <213> Homo sapiens

<400> 14

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Ile Cys Gly Leu Ile Lys Gly Gly Ala Ala Lys Leu Gln Ile Ile Thr	
35 40 45	

Asp Phe Asp Met Thr Leu Ser Arg Phe Ser Tyr Lys Gly Lys Arg Cys
 50 55 60

Pro Thr Cys His Asn Ile Ile Asp Asn Cys Lys Leu Val Thr Asp Glu
 65 70 75 80

Cys Arg Lys Lys Leu Leu Gln Leu Lys Glu Lys Tyr Tyr Ala Ile Glu
 85 90 95

Val Asp Pro Val Leu Thr Val Glu Glu Lys Tyr Pro Tyr Met Val Glu
 100 105 110

Trp Tyr Thr Lys Ser His Gly Leu Leu Val Gln Gln Ala Leu Pro Lys
 115 120 125

Ala Lys Leu Lys Glu Ile Val Ala Glu Ser Asp Val Met Leu Lys Glu
 130 135 140

Gly Tyr Glu Asn Phe Phe Asp Lys Leu Gln Gln His Ser Ile Pro Val
 145 150 155 160

Phe Ile Phe Ser Ala Gly Ile Gly Asp Val Leu Glu Glu Val Ile Arg
 165 170 175

Gln Ala Gly Val Tyr His Pro Asn Val Lys Val Val Ser Asn Phe Met
 180 185 190

Asp Phe Asp Glu Thr Gly Val Leu Lys Gly Phe Lys Gly Glu Leu Ile
 195 200 205

His Val Phe Asn Lys His Asp Gly Ala Leu Arg Asn Thr Glu Tyr Phe
 210 215 220

Asn Gln Leu Lys Asp Asn Ser Asn Ile Ile Leu Leu Gly Asp Ser Gln
 225 230 235 240

Gly Asp Leu Arg Met Ala Asp Gly Val Ala Asn Val Glu His Ile Leu
 245 250 255

Lys Ile Gly Tyr Leu Asn Asp Arg Val Asp Glu Leu Leu Glu Lys Tyr
 260 265 270

Met Asp Ser Tyr Asp Ile Val Leu Val Gln Asp Glu Ser Leu Glu Val
 275 280 285

Ala Asn Ser Ile Leu Gln Lys Ile Leu
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 Ala Leu Gly Leu Glu Gln Ala Glu Glu Gln Arg Leu Tyr Gln Gln Thr
 5 10 15

ctc ctg caa gac ggg ctc aaa gac atg ctg gac cat ggc aag ttc ctc 154
 Leu Leu Gln Asp Gly Leu Lys Asp Met Leu Asp His Gly Lys Phe Leu
 20 25 30

gac tgt gtg gtg cgg gcg ggc gag cgc gag ttc ccg tgc cat cgc ctg 202
 Asp Cys Val Val Arg Ala Gly Glu Arg Glu Phe Pro Cys His Arg Leu
 35 40 45

gtg ctg gcc gcc tgc agc ccc tac ttc cgg gcg cgc ttt cta gcc gag 250
 Val Leu Ala Ala Cys Ser Pro Tyr Phe Arg Ala Arg Phe Leu Ala Glu
 50 55 60 65

ccg gag cgc gcg ggc gag ctg cac ctg gag gag gtg tcc ccg gac gtg 298
 Pro Glu Arg Ala Gly Glu Leu His Leu Glu Glu Val Ser Pro Asp Val
 70 75 80

gtg gcc cag gtg ctg cac tac ctg tac aca tca gag atc gcg ctg gat 346
 Val Ala Gln Val Leu His Tyr Leu Tyr Thr Ser Glu Ile Ala Leu Asp
 85 90 95

gag gcg agc gtg cag gat ttg ttc gcc gcg gca cac cgc ttc cag atc 394
 Glu Ala Ser Val Gln Asp Leu Phe Ala Ala Ala His Arg Phe Gln Ile
 100 105 110

cct tcc atc ttc acc atc tgc gtg tcc ttc ctg cag aag cgc ctg tgc 442
 Pro Ser Ile Phe Thr Ile Cys Val Ser Phe Leu Gln Lys Arg Leu Cys
 115 120 125

ctc tcc aac tgc ttg gcc gtc ttc cgt ctc ggc ctc ctg ctc gac tgc 490
 Leu Ser Asn Cys Leu Ala Val Phe Arg Leu Gly Leu Leu Leu Asp Cys
 130 135 140 145

gcg cgt ctc gcc gtg gct gcc cgc gac ttc atc tgc gct cac ttc acg 538
 Ala Arg Leu Ala Val Ala Ala Arg Asp Phe Ile Cys Ala His Phe Thr
 150 155 160

ctg gtg gcg cgc gac gct gac ttc ctc gga ctc tgc gcc gac gag ctc 586
 Leu Val Ala Arg Asp Ala Asp Phe Leu Gly Leu Ser Ala Asp Glu Leu
 165 170 175

atc gcc atc atc tcc agc gac ggc ctt aac gtg gag aag gag gag gca 634
 Ile Ala Ile Ile Ser Ser Asp Gly Leu Asn Val Glu Lys Glu Glu Ala
 180 185 190

gtg ttc gag gcg gtg atg cgg tgg gcg ggt agc ggc gac gcc gag gcg Val Phe Glu Ala Val Met Arg Trp Ala Gly Ser Gly Asp Ala Glu Ala 195 200 205	682
cag gct gag cgc cag cgc gcg ctg ccc acc gtc ttc gag agc gtg cgc Gln Ala Glu Arg Gln Arg Ala Leu Pro Thr Val Phe Glu Ser Val Arg 210 215 220 225	730
tgc cgc ttg ctg ccg cgc gcc ttt ctg gaa agc cgc gtg gag cgc cac Cys Arg Leu Leu Pro Arg Ala Phe Leu Ser Arg Val Glu Arg His 230 235 240	778
cct ctc gtg cgt gcc cag ccc gag ttg ctg cgc aag gtg cag atg gtg Pro Leu Val Arg Ala Gln Pro Glu Leu Leu Arg Lys Val Gln Met Val 245 250 255	826
aag gat gca cac gag ggc cgc atc acc acg ctg cgc aag aaa aag aag Lys Asp Ala His Glu Gly Arg Ile Thr Thr Leu Arg Lys Lys Lys Lys 260 265 270	874
ggg aag gat gga gcc ggg gcc aag gag gct gat aag ggc aca agc aaa Gly Lys Asp Gly Ala Gly Ala Lys Glu Ala Asp Lys Gly Thr Ser Lys 275 280 285	922
gcc aaa gca gag gag gat gag gag gcc gaa cgt atc ctt cct ggg atc Ala Lys Ala Glu Glu Asp Glu Glu Ala Glu Arg Ile Leu Pro Gly Ile 290 295 300 305	970
ctc aat gac acc ctg cgc ttc ggc atg ttc ctg cag gat ctc atc ttc Leu Asn Asp Thr Leu Arg Phe Gly Met Phe Leu Gln Asp Leu Ile Phe 310 315 320	1018
atg atc agt gag gag ggc gct gtg gcc tac gat cca gca gcc aac gag Met Ile Ser Glu Glu Gly Ala Val Ala Tyr Asp Pro Ala Ala Asn Glu 325 330 335	1066
tgc tac tgt gct tcc ctc tcc agc cag gtc ccc aag aac cac gtc agc Cys Tyr Cys Ala Ser Leu Ser Ser Gln Val Pro Lys Asn His Val Ser 340 345 350	1114
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gac cat ctg gac tca gag tgg ctg ggg atg cca ccg ctg ccc tcg ccc Asp His Leu Asp Ser Glu Trp Leu Gly Met Pro Pro Leu Pro Ser Pro 390 395 400	1258
cgc tgc ctc ttt ggc ctg gga gaa gct ctc aac tcc atc tac gtg gtc Arg Cys Leu Phe Gly Leu Gly Glu Ala Leu Asn Ser Ile Tyr Val Val 405 410 415	1306
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acc gcc cgc tca ctc ttt ggg gcc act gtc cat gat ggc cgc att atc Thr Ala Arg Ser Leu Phe Gly Ala Thr Val His Asp Gly Arg Ile Ile 500 505 510	1594
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att ggt ggc ttt gcc aca ctg gag acg gag tct gga gag ctg gtt ccc Ile Gly Gly Phe Ala Thr Leu Glu Thr Glu Ser Gly Glu Leu Val Pro 565 570 575	1786
aca gag ctc aat gac atc tgg agg tat aac gag gag gag aag aaa tgg Thr Glu Leu Asn Asp Ile Trp Arg Tyr Asn Glu Glu Glu Lys Lys Trp 580 585 590	1834
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gctggcaaaag ttccccacag gactcagcct tctcgtctgt ccgatgggag catccccatc	2288
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<213> Homo sapiens

<400> 16

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Leu Asp Cys Val Val Arg Ala Gly Glu Arg Glu Phe Pro Cys His Arg
35 40 45

Leu Val Leu Ala Ala Cys Ser Pro Tyr Phe Arg Ala Arg Phe Leu Ala
50 55 60

Glu Pro Glu Arg Ala Gly Glu Leu His Leu Glu Glu Val Ser Pro Asp
65 70 75 80

Val Val Ala Gln Val Leu His Tyr Leu Tyr Thr Ser Glu Ile Ala Leu
85 90 95

Asp Glu Ala Ser Val Gln Asp Leu Phe Ala Ala Ala His Arg Phe Gln
100 105 110

Ile Pro Ser Ile Phe Thr Ile Cys Val Ser Phe Leu Gln Lys Arg Leu
115 120 125

Cys Leu Ser Asn Cys Leu Ala Val Phe Arg Leu Gly Leu Leu Leu Asp
130 135 140

Cys Ala Arg Leu Ala Val Ala Ala Arg Asp Phe Ile Cys Ala His Phe
145 150 155 160

Thr Leu Val Ala Arg Asp Ala Asp Phe Leu Gly Leu Ser Ala Asp Glu
165 170 175

Leu Ile Ala Ile Ile Ser Ser Asp Gly Leu Asn Val Glu Lys Glu Glu
180 185 190

Ala Val Phe Glu Ala Val Met Arg Trp Ala Gly Ser Gly Asp Ala Glu
195 200 205

Ala Gln Ala Glu Arg Gln Arg Ala Leu Pro Thr Val Phe Glu Ser Val
210 215 220

Arg Cys Arg Leu Leu Pro Arg Ala Phe Leu Glu Ser Arg Val Glu Arg
225 230 235 240

His Pro Leu Val Arg Ala Gln Pro Glu Leu Leu Arg Lys Val Gln Met
 245 250 255

Val Lys Asp Ala His Glu Gly Arg Ile Thr Thr Leu Arg Lys Lys Lys
 260 265 270

Lys Gly Lys Asp Gly Ala Gly Ala Lys Glu Ala Asp Lys Gly Thr Ser
 275 280 285

Lys Ala Lys Ala Glu Glu Asp Glu Glu Ala Glu Arg Ile Leu Pro Gly
 290 295 300

Ile Leu Asn Asp Thr Leu Arg Phe Gly Met Phe Leu Gln Asp Leu Ile
 305 310 315 320

Phe Met Ile Ser Glu Glu Gly Ala Val Ala Tyr Asp Pro Ala Ala Asn
 325 330 335

Glu Cys Tyr Cys Ala Ser Leu Ser Ser Gln Val Pro Lys Asn His Val
 340 345 350

Ser Leu Val Thr Lys Glu Asn Gln Val Phe Val Ala Gly Gly Leu Phe
 355 360 365

Tyr Asn Glu Asp Asn Lys Glu Asp Pro Met Ser Ala Tyr Phe Leu Gln
 370 375 380

Phe Asp His Leu Asp Ser Glu Trp Leu Gly Met Pro Pro Leu Pro Ser
 385 390 395 400

Pro Arg Cys Leu Phe Gly Leu Gly Glu Ala Leu Asn Ser Ile Tyr Val
 405 410 415

Val Gly Gly Arg Glu Ile Lys Asp Gly Glu Arg Cys Leu Asp Ser Val
 420 425 430

Met Cys Tyr Asp Arg Leu Ser Phe Lys Trp Gly Glu Ser Asp Pro Leu
 435 440 445

Pro Tyr Val Val Tyr Gly His Thr Val Leu Ser His Met Asp Leu Val
 450 455 460

Tyr Val Ile Gly Gly Lys Gly Ser Asp Arg Lys Cys Leu Asn Lys Met
 465 470 475 480

Cys Val Tyr Asp Pro Lys Lys Phe Glu Trp Lys Glu Leu Ala Pro Met
 485 490 495

Gln Thr Ala Arg Ser Leu Phe Gly Ala Thr Val His Asp Gly Arg Ile
500 505 510

Ile Val Ala Ala Gly Val Thr Asp Thr Gly Leu Thr Ser Ser Ala Glu
515 520 525

Val Tyr Ser Ile Thr Asp Asn Lys Trp Ala Pro Phe Glu Ala Phe Pro
530 535 540

Gln Glu Arg Ser Ser Leu Ser Leu Val Ser Leu Val Gly Thr Leu Tyr
545 550 555 560

Ala Ile Gly Gly Phe Ala Thr Leu Glu Thr Glu Ser Gly Glu Leu Val
565 570 575

Pro Thr Glu Leu Asn Asp Ile Trp Arg Tyr Asn Glu Glu Glu Lys Lys
580 585 590

Trp Glu Gly Val Leu Arg Glu Ile Ala Tyr Ala Ala Gly Ala Thr Phe
595 600 605

Leu Pro Val Arg Leu Asn Val Leu Arg Leu Thr Lys Met
610 615 620

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acagccgccc cgcgcgctc ctctccggga gccgccttcc ccccgggccc agggcggtgg 180
cgtggggcgc cgggtgcagg cgttctgggg cgccggggcc gcagctcgct ggccatcccg 240
cggctgcgcc cgcgcgctcg ccc atg gct gag ggc cgg cgg cgg gag gac gag 293
Met Ala Glu Gly Arg Arg Arg Glu Asp Glu
1 5 10
gag gaa gag cta cgc gag cgc cgc gaa ctt ggt ggc cag cgc cgc gcc 341
Glu Glu Glu Leu Arg Glu Arg Arg Glu Leu Gly Gly Gln Arg Arg Ala
15 20 25
cgg ggc cgt gcg ctc tcg ggc cac tcg gcc gca gat cgc aac gaa cga 389
Arg Gly Arg Ala Leu Ser Gly His Ser Ala Ala Asp Arg Asn Glu Arg
30 35 40

aat aaa cca gaa cat cgt tct tca agc caa gga ccc ttg tca tcc att Asn Lys Pro Glu His Arg Ser Ser Ser Gln Gly Pro Leu Ser Ser Ile 45 50 55	437
aga gcg gta atc aag aga tct tct cgg act tct att cag agt gaa ctt Arg Ala Val Ile Lys Arg Ser Ser Arg Thr Ser Ile Gln Ser Glu Leu 60 65 70	485
cat cga gat aga agg cgc cca gag atc acc att gtg gca gct gag cca His Arg Asp Arg Arg Arg Pro Glu Ile Thr Ile Val Ala Ala Glu Pro 75 80 85 90	533
ctg agg cca gcc tcg tgg ttt cca gga acc cca ccc cca gga ctg gga Leu Arg Pro Ala Ser Trp Phe Pro Gly Thr Pro Pro Pro Gly Leu Gly 95 100 105	581
ttt cct aca tca tct gca gca ggc tct tgg agg cct aat gag ctg gtt Phe Pro Thr Ser Ser Ala Ala Gly Ser Trp Arg Pro Asn Glu Leu Val 110 115 120	629
cct gct gag ctg cca cca tct tat gaa caa gtt ata aaa gaa atc aac Pro Ala Glu Leu Pro Pro Ser Tyr Glu Gln Val Ile Lys Glu Ile Asn 125 130 135	677
caa gtt caa gtt aat act aca aat aat aat aat gct gct gct act cca Gln Val Gln Val Asn Thr Thr Asn Asn Asn Asn Ala Ala Ala Thr Pro 140 145 150	725
agg cac act att act tct gca act cag act gac ttt tca gaa gaa ata Arg His Thr Ile Thr Ser Ala Thr Gln Thr Asp Phe Ser Glu Glu Ile 155 160 165 170	773
gac aac gat ctg cct caa aca cta cag gca cct ctg aag cct ctt cag Asp Asn Asp Leu Pro Gln Thr Leu Gln Ala Pro Leu Lys Pro Leu Gln 175 180 185	821
cct ttc tca gca gtc tcg tct ggc aat ctt cca aca aat gtg gca cct Pro Phe Ser Ala Val Ser Ser Gly Asn Leu Pro Thr Asn Val Ala Pro 190 195 200	869
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agt gct aca aga tgt cca gtg cca aaa cca aga tca aaa agc aac ctg Ser Ala Thr Arg Cys Pro Val Pro Lys Pro Arg Ser Lys Ser Asn Leu 220 225 230	965
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atc agc cca gca gcc gta gga gag gag tca tcc cca ggc cgg ccc cag Ile Ser Pro Ala Ala Val Gly Glu Glu Ser Ser Pro Gly Arg Pro Gln 255 260 265	1061
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Phe Pro Gly Thr Pro Pro Pro Gly Leu Gly Phe Pro Thr Ser Ser Ala
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Ala Gly Ser Trp Arg Pro Asn Glu Leu Val Pro Ala Glu Leu Pro Pro
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Ser Ser Ser Gln Gly Pro Leu Ser Ser Ile Arg Ala Val Ile Lys Arg
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Ser Ser Arg Thr Ser Ile Gln Ser Glu Leu His Arg Asp Arg Arg Arg
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Ala Gly Ser Trp Arg Pro Asn Glu Leu Val Pro Ala Glu Leu Pro Pro
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Ser Tyr Glu Gln Val Ile Lys Glu Ile Asn Gln Val Gln Val Asn Thr
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Thr Asn Asn Asn Asn Ala Ala Ala Thr Pro Arg His Thr Ile Thr Ser
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Ser Asn Ala Thr Leu Gln Ala Pro Leu Lys Pro Leu Gln Pro Phe Ser
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Ala Val Ser Ser Gly Asn Leu Pro Thr Asn Val Ala Pro Leu Ile Val
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Phe Asp Ile Ser Glu Glu Pro Asn Cys Pro Glu Asn Pro Ser Ala Thr
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Arg Cys Pro Val Pro Lys Pro Arg Ser Lys Ser Asn Leu Arg Pro Ile
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Ala Ala Val Gly Glu Glu Ser Ser Pro Gly Arg Pro Gln Ser Leu Leu
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Gly Gln Thr Asn Ile Glu Thr Ser Gly Leu Pro Lys Lys Pro Glu Ile
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Thr Pro Arg Ser Leu Pro Pro Lys Pro Thr Val Ser Ser Gly Lys Pro
325 330 335

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Ser Gly Thr Glu Asn Arg Leu Lys Val Thr Ser Lys Glu Gly Leu Thr
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Pro Tyr Pro Pro Leu Gln Glu Ala Gly Ser Ile Pro Val Thr Lys Pro
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Lys Val Pro Thr Pro Ala Pro Arg Pro Leu Leu Leu Lys Lys Ser Val
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Lys Pro Leu Val Asp Ile Asp Leu Ile Ser Phe Asp Asp Asp Val Leu
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Val Leu Asp Pro Phe Gln Leu Pro Ala Lys Thr Glu Pro Ile Lys Glu
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Arg Ala Val Gln Pro Ala Pro Thr Arg Lys Pro Thr Val Ile Arg Ile
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Gly Lys Leu Ser Asn Val Glu Arg Thr Arg Asn Leu Glu Ser Asn His
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Pro Gly Gln Thr Gly Gly Phe Val Arg Val Pro Pro Arg Leu Pro Pro
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Val Pro Pro Glu Arg Pro Pro Pro Pro Lys Leu Ser Ala Thr Arg Arg
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Ser Asn Lys Lys Leu Pro Phe Asn Arg Ser Ser Ser Asp Met Asp Leu
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660 665 670

Gln Val Phe Lys Asn Gln Asp Pro Val Leu Pro Pro Arg Pro Lys Pro
675 680 685

Gly His Pro Leu Tyr Ser Lys Tyr Met Leu Ser Val Pro His Gly Ile
690 695 700

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Arg Gly Asp Val Leu Val Met Leu Lys Gln Thr Glu Asn Asn Tyr Leu
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Glu Cys Gln Lys Gly Glu Asp Thr Gly Arg Val His Leu Ser Gln Met
740 745 750

Lys Ile Ile Thr Pro Leu Asp Glu His Leu Arg Ser Arg Pro Asn Asp
755 760 765

Pro Ser His Ala Gln Lys Pro Val Asp Ser Gly Ala Pro His Ala Val
770 775 780

Val Leu His Asp Phe Pro Ala Glu Gln Val Asp Asp Leu Asn Leu Thr
785 790 795 800

Ser Gly Glu Ile Val Tyr Leu Leu Glu Lys Ile Asp Thr Asp Trp Tyr
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Arg Gly Asn Cys Arg Asn Gln Ile Gly Ile Phe Pro Ala Asn Tyr Val
820 825 830

Lys Val Ile Ile Asp Ile Pro Glu Gly Gly Asn Gly Lys Arg Glu Cys
835 840 845

Val Ser Ser His Cys Val Lys Gly Ser Arg Cys Val Ala Arg Phe Glu
850 855 860

Tyr Ile Gly Glu Gln Lys Asp Glu Leu Ser Phe Ser Glu Gly Glu Ile
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885 890 895

Arg Gly Arg Thr Gly Ile Phe Pro Leu Asn Phe Val Glu Pro Val Glu
900 905 910

Asp Tyr Pro Thr Ser Gly Ala Asn Val Leu Ser Thr Lys Val Pro Leu
915 920 925

Lys Thr Lys Lys Glu Asp Ser Gly Ser Asn Ser Gln Val Asn Ser Leu
930 935 940

Pro Ala Glu Trp Cys Glu Ala Leu His Ser Phe Thr Ala Glu Thr Ser
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Asp Asp Leu Ser Phe Lys Arg Gly Asp Arg Ile Gln Ile Leu Glu Arg
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980 985 990

Phe Pro Ala Val Phe Val Arg Pro Cys Pro Ala Glu Ala Lys Ser Met
995 1000 1005

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Met Asp Ile Ser Thr Arg
1 5
tcc aaa gat cct ggc tct gca gag aga aca gcc cag aaa aga aag ttc 401
Ser Lys Asp Pro Gly Ser Ala Glu Arg Thr Ala Gln Lys Arg Lys Phe
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Pro Ser Pro Pro His Ser Ser Asn Gly His Ser Pro Gln Asp Thr Ser
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Thr Ser Pro Ile Lys Lys Lys Lys Lys Pro Gly Leu Leu Asn Ser Asn
40 45 50
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Asn Lys Glu Gln Ser Glu Leu Arg His Gly Pro Phe Tyr Tyr Met Lys
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cag cca ctc acc aca gac cct gtt gat gtt gta ccg cag gat gga cgg 593
Gln Pro Leu Thr Thr Asp Pro Val Asp Val Val Pro Gln Asp Gly Arg
75 80 85
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90 95 100
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Cys Glu Leu Cys Pro Arg Val Tyr His Ala Lys Cys Leu Arg Leu Thr
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135 140 145 150
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Ile Glu Gln Leu Ser Tyr Leu Leu Lys Phe Ala Ile Gln Lys Met Lys
155 160 165

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Ser Tyr Cys Asp Tyr Pro Cys Gln Gln Ala His Trp Pro Glu His	
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atg aag tcc tgc acc cag tca gct act gct cct cag cag gaa gcg	3554
Met Lys Ser Cys Thr Gln Ser Ala Thr Ala Pro Gln Gln Glu Ala	
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gat gct gag gtg aac aca gaa aca cta aat aag tcc tcc cag ggg	3599
Asp Ala Glu Val Asn Thr Glu Thr Leu Asn Lys Ser Ser Gln Gly	
1075 1080 1085	
agc tcc tcg agc aca caa tca gca cct tca gaa acg gcc agc gcc	3644
Ser Ser Ser Ser Thr Gln Ser Ala Pro Ser Glu Thr Ala Ser Ala	
1090 1095 1100	
tcc aaa gag aag gag acg tca gct gag aaa agc aag gag agt ggc	3689
Ser Lys Glu Lys Glu Thr Ser Ala Glu Lys Ser Lys Glu Ser Gly	
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tcg acc ctt gac ctt tct ggc tcc aga gag acg ccc tcc tcc att	3734
Ser Thr Leu Asp Leu Ser Gly Ser Arg Glu Thr Pro Ser Ser Ile	
1120 1125 1130	
ctc tta ggc tcc aac caa ggc tct gtt agc aaa agg tgt gac aag	3779
Leu Leu Gly Ser Asn Gln Gly Ser Val Ser Lys Arg Cys Asp Lys	
1135 1140 1145	
caa cct gcc tat gcc cca acc acc aca gac cac cag ccg cac ccc	3824
Gln Pro Ala Tyr Ala Pro Thr Thr Thr Asp His Gln Pro His Pro	
1150 1155 1160	
aac tac ccc gcc cag aag tac cat tcc cgg agt aat aaa tcc agt	3869
Asn Tyr Pro Ala Gln Lys Tyr His Ser Arg Ser Asn Lys Ser Ser	
1165 1170 1175	

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 Trp Ser Ser Ser Asp Glu Lys Arg Gly Ser Thr Arg Ser Asp His
 1168 1185 1190

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Asn Thr Ser Thr Ser Thr Lys Ser Leu Leu Pro Lys Glu Ser Arg
      1195                      1200                      1205

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ctg gac acc ttc tgg gac tagcagtgaa togggacaca aaccacccac 4007
Leu Asp Thr Phe Trp Asp
1210

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ccactttcag acttgaaaat qacaaaaccc tcagttgagc ctgagccccc ggcgcgqggg 4127

ctgctacact acaggacacc cagcatcggc ttgactgca gactgttcac ccacacgagc 4187

cctgtgcttt tgggtgtaaat aatgtacaat ttgtggatgt cattgaatct agaggacttt 4247

ccccttttta tatttqtatt aactttaact tattaaaaaa aaaaaaaagaa aaagaaaaaac 4307

gatttaaaaa aaaaaaaaaa aaqcaaccaa cccaacaac aaaaaagaat gttttggtat 4367

tggagaaggg atggtcagtt agcctgtctg tcacacgacg gaatggatac tgggcccggg 4427

gaccactttc atactcacgt cctcatcctt ggatacccg qggagggcga accgttttcg 4487

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gccgttgqct cctttcagct actacgttac cacgttccta aaacqcaagc tctccggacc 4607

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cagtatgaga gaaagcaagg cccgtcatgc tctccgtaca ctacgtatgc ttgtagagcc 5027

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Ser Pro Gln Asp Thr Ser Thr Ser Pro Ile Lys Lys Lys Lys Lys Pro
35 40 45

Gly Leu Leu Asn Ser Asn Asn Lys Glu Gln Ser Glu Leu Arg His Gly
50 55 60

Pro Phe Tyr Tyr Met Lys Gln Pro Leu Thr Thr Asp Pro Val Asp Val
65 70 75 80

Val Pro Gln Asp Gly Arg Asn Asp Phe Tyr Cys Trp Val Cys His Arg
85 90 95

Glu Gly Gln Val Leu Cys Cys Glu Leu Cys Pro Arg Val Tyr His Ala
100 105 110

Lys Cys Leu Arg Leu Thr Ser Glu Pro Glu Gly Asp Trp Phe Cys Pro
115 120 125

Glu Cys Glu Lys Ile Thr Val Ala Glu Cys Ile Glu Thr Gln Ser Lys
130 135 140

Ala Met Thr Met Leu Thr Ile Glu Gln Leu Ser Tyr Leu Leu Lys Phe
145 150 155 160

Ala Ile Gln Lys Met Lys Gln Pro Gly Thr Asp Ala Phe Gln Lys Pro
165 170 175

Val Pro Leu Glu Gln His Pro Asp Tyr Ala Glu Tyr Ile Phe His Pro
180 185 190

Met Asp Leu Cys Thr Leu Glu Lys Asn Ala Lys Lys Lys Met Tyr Gly
195 200 205

Cys Thr Glu Ala Phe Leu Ala Asp Ala Lys Trp Ile Leu His Asn Cys
210 215 220

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Ile Ile Tyr Asn Gly Gly Asn His Lys Leu Thr Gln Ile Ala Lys Val  
225                230                235                240
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Val Ile Lys Ile Cys Glu His Glu Met Asn Glu Ile Glu Val Cys Pro
245 250 255

Glu Cys Tyr Leu Ala Ala Cys Gln Lys Arg Asp Asn Trp Phe Cys Glu
260 265 270

Pro Cys Ser Asn Pro His Pro Leu Val Trp Ala Lys Leu Lys Gly Phe
275 280 285

Pro Phe Trp Pro Ala Lys Ala Leu Arg Asp Lys Asp Gly Gln Val Asp
290 295 300

Ala Arg Phe Phe Gly Gln His Asp Arg Ala Trp Val Pro Ile Asn Asn
305 310 315 320

Cys Tyr Leu Met Ser Lys Glu Ile Pro Phe Ser Val Lys Lys Thr Lys
325 330 335

Ser Ile Phe Asn Ser Ala Met Gln Glu Met Glu Val Tyr Val Glu Asn
340 345 350

Ile Arg Arg Lys Phe Gly Val Phe Asn Tyr Ser Pro Phe Arg Thr Pro
355 360 365

Tyr Thr Pro Asn Ser Gln Tyr Gln Met Leu Leu Asp Pro Thr Asn Pro
370 375 380

Ser Ala Gly Thr Ala Lys Ile Asp Lys Gln Glu Lys Val Lys Leu Asn
385 390 395 400

Phe Asp Met Thr Ala Ser Pro Lys Ile Leu Met Ser Lys Pro Val Leu
405 410 415

Ser Gly Gly Thr Gly Arg Arg Ile Ser Leu Ser Asp Met Pro Arg Ser
420 425 430

Pro Met Ser Thr Asn Ser Ser Val His Thr Gly Ser Asp Val Glu Gln
435 440 445

Asp Ala Glu Lys Lys Ala Thr Ser Ser His Phe Ser Ala Ser Glu Glu
450 455 460

Ser Met Asp Phe Leu Asp Lys Ser Thr Ala Ser Pro Ala Ser Thr Lys
465 470 475 480

Thr Gly Gln Ala Gly Ser Leu Ser Gly Ser Pro Lys Pro Phe Ser Pro
485 490 495

Gln Leu Ser Ala Pro Ile Thr Thr Lys Thr Asp Lys Thr Ser Thr Thr
500 505 510

Gly Ser Ile Leu Asn Leu Asn Leu Asp Arg Ser Lys Ala Glu Met Asp
515 520 525

Leu Lys Glu Leu Ser Glu Ser Val Gln Gln Gln Ser Thr Pro Val Pro
530 535 540

Leu Ile Ser Pro Lys Arg Gln Ile Arg Ser Arg Phe Gln Leu Asn Leu
545 550 555 560

Asp Lys Thr Ile Glu Ser Cys Lys Ala Gln Leu Gly Ile Asn Glu Ile
565 570 575

Ser Glu Asp Val Tyr Thr Ala Val Glu His Ser Asp Ser Glu Asp Ser
580 585 590

Glu Lys Ser Asp Ser Ser Asp Ser Glu Tyr Ile Ser Asp Asp Glu Gln
595 600 605

Lys Ser Lys Asn Glu Pro Glu Asp Thr Glu Asp Lys Glu Gly Cys Gln
610 615 620

Met Asp Lys Glu Pro Ser Ala Val Lys Lys Lys Pro Lys Pro Thr Asn
625 630 635 640

Pro Val Glu Ile Lys Glu Glu Leu Lys Ser Thr Ser Pro Ala Ser Glu
645 650 655

Lys Ala Asp Pro Gly Ala Val Lys Asp Lys Ala Ser Pro Glu Pro Glu
660 665 670

Lys Asp Phe Ser Glu Lys Ala Lys Pro Ser Pro His Pro Ile Lys Asp
675 680 685

Lys Leu Lys Gly Lys Asp Glu Thr Asp Ser Pro Thr Val His Leu Gly
690 695 700

Leu Asp Ser Asp Ser Glu Ser Glu Leu Val Ile Asp Leu Gly Glu Asp
705 710 715 720

His Ser Gly Arg Glu Gly Arg Lys Asn Lys Lys Glu Pro Lys Glu Pro
725 730 735

Ser Pro Lys Gln Asp Val Val Gly Lys Thr Pro Pro Ser Thr Thr Val
740 745 750

Gly Ser His Ser Pro Pro Glu Thr Pro Val Leu Thr Arg Ser Ser Ala
755 760 765

Gln Thr Ser Ala Ala Gly Ala Thr Ala Thr Thr Ser Thr Ser Ser Thr
770 775 780

Val Thr Val Thr Ala Pro Ala Pro Ala Ala Thr Gly Ser Pro Val Lys
785 790 795 800

Lys Gln Arg Pro Leu Leu Pro Lys Glu Thr Ala Pro Ala Val Gln Arg
805 810 815

Val Val Trp Asn Ser Ser Ser Lys Phe Gln Thr Ser Ser Gln Lys Trp
820 825 830

His Met Gln Lys Met Gln Arg Gln Gln Gln Gln Gln Gln Gln Asn
835 840 845

Gln Gln Gln Gln Pro Gln Ser Ser Gln Gly Thr Arg Tyr Gln Thr Arg
850 855 860

Gln Ala Val Lys Ala Val Gln Gln Lys Glu Ile Thr Gln Ser Pro Ser
865 870 875 880

Thr Ser Thr Ile Thr Leu Val Thr Ser Thr Gln Ser Ser Pro Leu Val
885 890 895

Thr Ser Ser Gly Ser Met Ser Thr Leu Val Ser Ser Val Asn Ala Asp
900 905 910

Leu Pro Ile Ala Thr Ala Ser Ala Asp Val Ala Ala Asp Ile Ala Lys
915 920 925

Tyr Thr Ser Lys Met Met Asp Ala Ile Lys Gly Thr Met Thr Glu Ile
930 935 940

Tyr Asn Asp Leu Ser Lys Asn Thr Thr Gly Ser Thr Ile Ala Glu Ile
945 950 955 960

Arg Arg Leu Arg Ile Glu Ile Glu Lys Leu Gln Trp Leu His Gln Gln
965 970 975

Glu Leu Ser Glu Met Lys His Asn Leu Glu Leu Thr Met Ala Glu Met
980 985 990

Arg Gln Ser Leu Glu Gln Glu Arg Asp Arg Leu Ile Ala Glu Val Lys
995 1000 1005

Lys Gln Leu Glu Leu Glu Lys Gln Gln Ala Val Asp Glu Thr Lys
1010 1015 1020

Lys Lys Gln Trp Cys Ala Asn Cys Lys Lys Glu Ala Ile Phe Tyr
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Cys Cys Trp Asn Thr Ser Tyr Cys Asp Tyr Pro Cys Gln Gln Ala
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His Trp Pro Glu His Met Lys Ser Cys Thr Gln Ser Ala Thr Ala
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Pro Gln Gln Glu Ala Asp Ala Glu Val Asn Thr Glu Thr Leu Asn
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Lys Ser Ser Gln Gly Ser Ser Ser Ser Thr Gln Ser Ala Pro Ser
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Glu Thr Ala Ser Ala Ser Lys Glu Lys Glu Thr Ser Ala Glu Lys
1100 1105 1110

Ser Lys Glu Ser Gly Ser Thr Leu Asp Leu Ser Gly Ser Arg Glu
1115 1120 1125

Thr Pro Ser Ser Ile Leu Leu Gly Ser Asn Gln Gly Ser Val Ser
1130 1135 1140

Lys Arg Cys Asp Lys Gln Pro Ala Tyr Ala Pro Thr Thr Thr Asp
1145 1150 1155

His Gln Pro His Pro Asn Tyr Pro Ala Gln Lys Tyr His Ser Arg
1160 1165 1170

Ser Asn Lys Ser Ser Trp Ser Ser Ser Asp Glu Lys Arg Gly Ser
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Pro Lys Glu Ser Arg Leu Asp Thr Phe Trp Asp
1205 1210

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Met Arg Trp Lys Ser Ile Ala His Ser Val Ile Gly Tyr Phe His Asp	
1 5 10 15	
ttc aag tgg ttt tat gaa gaa aca gaa agc agt gat gat gtt gaa gtg	155
Phe Lys Trp Phe Tyr Glu Glu Thr Glu Ser Ser Asp Asp Val Glu Val	
20 25 30	
ctg act ctc aag aaa ttc aaa gga gac ctg gcc tac aga cga caa gag	203
Leu Thr Leu Lys Lys Phe Lys Gly Asp Leu Ala Tyr Arg Arg Gln Glu	
35 40 45	
tat cag aaa gca ctg cag gag tat tcc agt atc tct gaa aaa ttg tca	251
Tyr Gln Lys Ala Leu Gln Glu Tyr Ser Ser Ile Ser Glu Lys Leu Ser	
50 55 60	
tca acc aat ttt gcc atg aaa agg gat gtc cag gaa ggt cag gct cgg	299
Ser Thr Asn Phe Ala Met Lys Arg Asp Val Gln Glu Gly Gln Ala Arg	
65 70 75 80	
tgt ctg gct cac ctg ggt agg cat atg gag gcg ctg gag att gct gca	347
Cys Leu Ala His Leu Gly Arg His Met Glu Ala Leu Glu Ile Ala Ala	
85 90 95	
aac ttg gaa aat aaa gca acc aac aca gac cat tta acc acg gta ctc	395
Asn Leu Glu Asn Lys Ala Thr Asn Thr Asp His Leu Thr Thr Val Leu	
100 105 110	
tac ctc cag ctt gct att tgt tca agt ttg cag aac ttg gag aaa aca	443
Tyr Leu Gln Leu Ala Ile Cys Ser Ser Leu Gln Asn Leu Glu Lys Thr	
115 120 125	
att ttc tgc ctg cag aaa ctg att tct ttg cat cct ttt aat cct tgg	491
Ile Phe Cys Leu Gln Lys Leu Ile Ser Leu His Pro Phe Asn Pro Trp	
130 135 140	
aac tgg ggc aaa ttg gca gag gct tac ctg aat ctg ggg cca gct ctt	539
Asn Trp Gly Lys Leu Ala Glu Ala Tyr Leu Asn Leu Gly Pro Ala Leu	
145 150 155 160	
tca gca gca ctt gcg tca tct cag aaa cag cac agt ttc acc tca agt	587
Ser Ala Ala Leu Ala Ser Ser Gln Lys Gln His Ser Phe Thr Ser Ser	
165 170 175	
gac aaa act atc aaa tcc ttc ttt cca cac tca gga aaa gac tgt ctt	635
Asp Lys Thr Ile Lys Ser Phe Phe Pro His Ser Gly Lys Asp Cys Leu	
180 185 190	
ttg tgt ttt cct gaa acc ttg cct gag agc tct tta ttt tct gtg gaa	683
Leu Cys Phe Pro Glu Thr Leu Pro Glu Ser Ser Leu Phe Ser Val Glu	
195 200 205	
gcg aat agc agt aat agc cag aaa aat gag aaa gct ctg aca aat atc	731
Ala Asn Ser Ser Asn Ser Gln Lys Asn Glu Lys Ala Leu Thr Asn Ile	
210 215 220	
caa aac tgt atg gca gaa aag aga gaa aca gtg ttg ata gag act cag	779
Gln Asn Cys Met Ala Glu Lys Arg Glu Thr Val Leu Ile Glu Thr Gln	
225 230 235 240	
ctg aaa gca tgt gcc tct ttt ata cga acc agg ctt ctg ctt cag ttt	827
Leu Lys Ala Cys Ala Ser Phe Ile Arg Thr Arg Leu Leu Leu Gln Phe	
245 250 255	

acc	caa	cct	cag	caa	aca	tcg	ttt	gct	ttg	gag	agg	aac	tta	agg	act	875
Thr	Gln	Pro	Gln	Gln	Thr	Ser	Phe	Ala	Leu	Glu	Arg	Asn	Leu	Arg	Thr	
		260						265					270			

cag	cag	gaa	att	gaa	gat	aaa	atg	aaa	ggg	ttc	agc	ttc	aaa	gaa	gac	923
Gln	Gln	Glu	Ile	Glu	Asp	Lys	Met	Lys	Gly	Phe	Ser	Phe	Lys	Glu	Asp	
		275					280					285				

act	ttg	ctg	ttg	ata	gct	gag	gtt	atg	gga	gaa	gat	atc	cca	gaa	aaa	971
Thr	Leu	Leu	Leu	Ile	Ala	Glu	Val	Met	Gly	Glu	Asp	Ile	Pro	Glu	Lys	
	290					295					300					

ata	aaa	gat	gaa	gtt	cac	cca	gag	gtg	aag	tgt	gtt	ggc	tcc	gta	gcc	1019
Ile	Lys	Asp	Glu	Val	His	Pro	Glu	Val	Lys	Cys	Val	Gly	Ser	Val	Ala	
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ctg	act	gcc	ttg	gtg	act	gta	tcc	tca	gaa	gaa	ttt	gaa	gac	aag	tgg	1067
Leu	Thr	Ala	Leu	Val	Thr	Val	Ser	Ser	Glu	Glu	Phe	Glu	Asp	Lys	Trp	
			325						330					335		

ttc	aga	aag	atc	aaa	gac	cat	ttc	tgt	cca	ttt	gaa	aat	cag	ttc	cat	1115
Phe	Arg	Lys	Ile	Lys	Asp	His	Phe	Cys	Pro	Phe	Glu	Asn	Gln	Phe	His	
		340						345					350			

aca	gag	ata	caa	atc	ttg	gct	tagtgggtta	taaaaaacaa	aaccacaaat							1166
Thr	Glu	Ile	Gln	Ile	Leu	Ala										
		355														

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gtataaatga	ttatttatgt	tttat				1251

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Phe	Lys	Trp	Phe	Tyr	Glu	Glu	Thr	Glu	Ser	Ser	Asp	Asp	Val	Glu	Val
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Leu	Thr	Leu	Lys	Lys	Phe	Lys	Gly	Asp	Leu	Ala	Tyr	Arg	Arg	Gln	Glu
		35					40					45			

Tyr	Gln	Lys	Ala	Leu	Gln	Glu	Tyr	Ser	Ser	Ile	Ser	Glu	Lys	Leu	Ser
	50					55					60				

Ser	Thr	Asn	Phe	Ala	Met	Lys	Arg	Asp	Val	Gln	Glu	Gly	Gln	Ala	Arg
65					70					75				80	

Cys	Leu	Ala	His	Leu	Gly	Arg	His	Met	Glu	Ala	Leu	Glu	Ile	Ala	Ala
				85					90					95	

Asn	Leu	Glu	Asn	Lys	Ala	Thr	Asn	Thr	Asp	His	Leu	Thr	Thr	Val	Leu	100	105	110
Tyr	Leu	Gln	Leu	Ala	Ile	Cys	Ser	Ser	Leu	Gln	Asn	Leu	Glu	Lys	Thr	115	120	125
Ile	Phe	Cys	Leu	Gln	Lys	Leu	Ile	Ser	Leu	His	Pro	Phe	Asn	Pro	Trp	130	135	140
Asn	Trp	Gly	Lys	Leu	Ala	Glu	Ala	Tyr	Leu	Asn	Leu	Gly	Pro	Ala	Leu	145	150	155
Ser	Ala	Ala	Leu	Ala	Ser	Ser	Gln	Lys	Gln	His	Ser	Phe	Thr	Ser	Ser	165	170	175
Asp	Lys	Thr	Ile	Lys	Ser	Phe	Phe	Pro	His	Ser	Gly	Lys	Asp	Cys	Leu	180	185	190
Leu	Cys	Phe	Pro	Glu	Thr	Leu	Pro	Glu	Ser	Ser	Leu	Phe	Ser	Val	Glu	195	200	205
Ala	Asn	Ser	Ser	Asn	Ser	Gln	Lys	Asn	Glu	Lys	Ala	Leu	Thr	Asn	Ile	210	215	220
Gln	Asn	Cys	Met	Ala	Glu	Lys	Arg	Glu	Thr	Val	Leu	Ile	Glu	Thr	Gln	225	230	235
Leu	Lys	Ala	Cys	Ala	Ser	Phe	Ile	Arg	Thr	Arg	Leu	Leu	Leu	Gln	Phe	245	250	255
Thr	Gln	Pro	Gln	Gln	Thr	Ser	Phe	Ala	Leu	Glu	Arg	Asn	Leu	Arg	Thr	260	265	270
Gln	Gln	Glu	Ile	Glu	Asp	Lys	Met	Lys	Gly	Phe	Ser	Phe	Lys	Glu	Asp	275	280	285
Thr	Leu	Leu	Leu	Ile	Ala	Glu	Val	Met	Gly	Glu	Asp	Ile	Pro	Glu	Lys	290	295	300
Ile	Lys	Asp	Glu	Val	His	Pro	Glu	Val	Lys	Cys	Val	Gly	Ser	Val	Ala	305	310	315
Leu	Thr	Ala	Leu	Val	Thr	Val	Ser	Ser	Glu	Glu	Phe	Glu	Asp	Lys	Trp	325	330	335
Phe	Arg	Lys	Ile	Lys	Asp	His	Phe	Cys	Pro	Phe	Glu	Asn	Gln	Phe	His	340	345	350

Thr Glu Ile Gln Ile Leu Ala
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Arg Ala Val Leu Ala Glu Leu Asn Ala Ser Leu Leu Gly Met Arg Val
15 20 25

aac aat gtt tat gat gtg gat aat aag aca tac ctt att cgt ctt caa 149
Asn Asn Val Tyr Asp Val Asp Asn Lys Thr Tyr Leu Ile Arg Leu Gln
30 35 40

aaa ccg gac ttt aaa gct aca ctt tta ctt gaa tct ggc ata cga att 197
Lys Pro Asp Phe Lys Ala Thr Leu Leu Glu Ser Gly Ile Arg Ile
45 50 55

cat aca aca gaa ttt gag tgg cct aag aat atg atg ccg tct agt ttt 245
His Thr Thr Glu Phe Glu Trp Pro Lys Asn Met Met Pro Ser Ser Phe
60 65 70

gcc atg aag tgc cga aaa cat ttg aag agt cgg aga tta gtc agt gca 293
Ala Met Lys Cys Arg Lys His Leu Lys Ser Arg Arg Leu Val Ser Ala
75 80 85 90

aaa cag ctt ggt gtg gat aga att gta gat ttt caa ttt gga agt gat 341
Lys Gln Leu Gly Val Asp Arg Ile Val Asp Phe Gln Phe Gly Ser Asp
95 100 105

gaa gct gct tac cat tta atc att gag ctc tat gat agg ggg aac att 389
Glu Ala Ala Tyr His Leu Ile Ile Glu Leu Tyr Asp Arg Gly Asn Ile
110 115 120

gtt ctt aca gat tat gag tac gta att tta aat att cta agg ttt cga 437
Val Leu Thr Asp Tyr Glu Tyr Val Ile Leu Asn Ile Leu Arg Phe Arg
125 130 135

act gat gag gca gat gat gtt aaa ttt gct gtt cgt gaa cgc tat cca 485
Thr Asp Glu Ala Asp Asp Val Lys Phe Ala Val Arg Glu Arg Tyr Pro
140 145 150

ctt gat cat gct aga gct gct gaa cct ttg ctt act ttg gaa agg ttg 533
Leu Asp His Ala Arg Ala Ala Glu Pro Leu Leu Thr Leu Glu Arg Leu
155 160 165 170

act gaa ata gta gcc agc gca cct aag ggt gaa cta ctg aag agg gtg 581
Thr Glu Ile Val Ala Ser Ala Pro Lys Gly Glu Leu Leu Lys Arg Val
175 180 185

ctt aac cca tta ctt ccc tat gga cca gct ctc att gaa cac tgt ctt Leu Asn Pro Leu Leu Pro Tyr Gly Pro Ala Leu Ile Glu His Cys Leu 190 195 200	629
tta gaa aat gga ttc tcg ggt aat gtc aaa gtg gat gaa aaa ctt gaa Leu Glu Asn Gly Phe Ser Gly Asn Val Lys Val Asp Glu Lys Leu Glu 205 210 215	677
act aaa gat att gaa aaa gta ctt gtt tct ctg cag aaa gca gaa gac Thr Lys Asp Ile Glu Lys Val Leu Val Ser Leu Gln Lys Ala Glu Asp 220 225 230	725
tat atg aaa aca aca tcc aac ttc agt ggg aag gga tat atc att cag Tyr Met Lys Thr Thr Ser Asn Phe Ser Gly Lys Gly Tyr Ile Ile Gln 235 240 245 250	773
aaa aga gaa ata aaa cca tgc ttg gaa gca gat aaa cca gtt gaa gac Lys Arg Glu Ile Lys Pro Cys Leu Glu Ala Asp Lys Pro Val Glu Asp 255 260 265	821
ata ctg acg tat gag gaa ttt cat cct ttc ttg ttt tct caa cat tca Ile Leu Thr Tyr Glu Glu Phe His Pro Phe Leu Phe Ser Gln His Ser 270 275 280	869
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gaa aac aga ttg gaa gct ctt cag cag gct cag gaa ata gac aaa ctg Glu Asn Arg Leu Glu Ala Leu Gln Gln Ala Gln Glu Ile Asp Lys Leu 335 340 345	1061
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gca atc aaa gaa tta aaa cta caa aca aac cat gtt aca atg ctg cta Ala Ile Lys Glu Leu Lys Leu Gln Thr Asn His Val Thr Met Leu Leu 395 400 405 410	1253
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gct gaa atg aaa ttc taaaatattt gagaagagcc aattttatag ccttttgga Ala Glu Met Lys Phe 1080	3309
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35 40 45

Thr Leu Leu Leu Glu Ser Gly Ile Arg Ile His Thr Thr Glu Phe Glu
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Trp Pro Lys Asn Met Met Pro Ser Ser Phe Ala Met Lys Cys Arg Lys
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His Leu Lys Ser Arg Arg Leu Val Ser Ala Lys Gln Leu Gly Val Asp
85 90 95

Arg Ile Val Asp Phe Gln Phe Gly Ser Asp Glu Ala Ala Tyr His Leu
100 105 110

Ile Ile Glu Leu Tyr Asp Arg Gly Asn Ile Val Leu Thr Asp Tyr Glu
115 120 125

Tyr Val Ile Leu Asn Ile Leu Arg Phe Arg Thr Asp Glu Ala Asp Asp
130 135 140

Val Lys Phe Ala Val Arg Glu Arg Tyr Pro Leu Asp His Ala Arg Ala
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Ala Glu Pro Leu Leu Thr Leu Glu Arg Leu Thr Glu Ile Val Ala Ser
165 170 175

Ala Pro Lys Gly Glu Leu Leu Lys Arg Val Leu Asn Pro Leu Leu Pro
180 185 190

Tyr Gly Pro Ala Leu Ile Glu His Cys Leu Leu Glu Asn Gly Phe Ser
195 200 205

Gly Asn Val Lys Val Asp Glu Lys Leu Glu Thr Lys Asp Ile Glu Lys
210 215 220

Val Leu Val Ser Leu Gln Lys Ala Glu Asp Tyr Met Lys Thr Thr Ser
225 230 235 240

Asn Phe Ser Gly Lys Gly Tyr Ile Ile Gln Lys Arg Glu Ile Lys Pro
245 250 255

Cys Leu Glu Ala Asp Lys Pro Val Glu Asp Ile Leu Thr Tyr Glu Glu
260 265 270

Phe His Pro Phe Leu Phe Ser Gln His Ser Gln Cys Pro Tyr Ile Glu
275 280 285

Phe Glu Ser Phe Asp Lys Ala Val Asp Glu Phe Tyr Ser Lys Ile Glu
290 295 300

Gly Gln Lys Ile Asp Leu Lys Ala Leu Gln Gln Glu Lys Gln Ala Leu
305 310 315 320

Lys Lys Leu Asp Asn Val Arg Lys Asp His Glu Asn Arg Leu Glu Ala
325 330 335

Leu Gln Gln Ala Gln Glu Ile Asp Lys Leu Lys Gly Glu Leu Ile Glu
340 345 350

Met Asn Leu Gln Ile Val Asp Arg Ala Ile Gln Val Val Arg Ser Ala
355 360 365

Leu Ala Asn Gln Ile Asp Trp Thr Glu Ile Gly Leu Ile Val Lys Glu
370 375 380

Ala Gln Ala Gln Gly Asp Pro Val Ala Ser Ala Ile Lys Glu Leu Lys
385 390 395 400

Leu Gln Thr Asn His Val Thr Met Leu Leu Arg Asn Pro Tyr Leu Leu
405 410 415

Ser Glu Glu Glu Asp Asp Asp Val Asp Gly Asp Val Asn Val Glu Lys
420 425 430

Asn Glu Thr Glu Pro Pro Lys Gly Lys Lys Lys Lys Gln Lys Asn Lys
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Gln Leu Gln Lys Pro Gln Lys Asn Lys Pro Leu Leu Val Asp Val Asp
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Leu Ser Leu Ser Ala Tyr Ala Asn Ala Lys Lys Tyr Tyr Asp His Lys
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Arg Tyr Ala Ala Lys Lys Thr Gln Lys Thr Val Glu Ala Ala Glu Lys
485 490 495

Ala Phe Lys Ser Ala Glu Lys Lys Thr Lys Gln Thr Leu Lys Glu Val
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Gln Thr Val Thr Ser Ile Gln Lys Ala Arg Lys Val Tyr Trp Phe Glu
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Lys Phe Leu Trp Phe Ile Ser Ser Glu Asn Tyr Leu Ile Ile Gly Gly
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Gly Asp Ile Tyr Val His Ala Asp Leu His Gly Ala Thr Ser Cys Val
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Ile Lys Asn Pro Thr Gly Glu Pro Ile Pro Pro Arg Thr Leu Thr Glu
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Ala Gly Thr Met Ala Leu Cys Tyr Ser Ala Ala Trp Asp Ala Arg Val
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Ile Thr Ser Ala Trp Trp Val Tyr His His Gln Val Ser Lys Thr Ala
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Pro Thr Gly Glu Tyr Leu Thr Thr Gly Ser Phe Met Ile Arg Gly Lys
 625 630 635 640

Lys Asn Phe Leu Pro Pro Ser Tyr Leu Met Met Gly Phe Ser Phe Leu
 645 650 655

Phe Lys Val Asp Glu Ser Cys Val Trp Arg His Gln Gly Glu Arg Lys
 660 665 670

Val Arg Val Gln Asp Glu Asp Met Glu Thr Leu Ala Ser Cys Thr Ser
 675 680 685

Glu Leu Ile Ser Glu Glu Met Glu Gln Leu Asp Gly Gly Asp Thr Ser
 690 695 700

Ser Asp Glu Asp Lys Glu Glu His Glu Thr Pro Val Glu Val Glu Leu
 705 710 715 720

Met Thr Gln Val Asp Gln Glu Asp Ile Thr Leu Gln Ser Gly Arg Asp
 725 730 735

Glu Leu Asn Glu Glu Leu Ile Gln Glu Glu Ser Ser Glu Asp Glu Gly
 740 745 750

Glu Tyr Glu Glu Val Arg Lys Asp Gln Asp Ser Val Gly Glu Met Lys
755 760 765

Asp Glu Gly Glu Glu Thr Leu Asn Tyr Pro Asp Thr Thr Ile Asp Leu
770 775 780

Ser His Leu Gln Pro Gln Arg Ser Ile Gln Lys Leu Ala Ser Lys Glu
785 790 795 800

Glu Ser Ser Asn Ser Ser Asp Ser Lys Ser Gln Ser Arg Arg His Leu
805 810 815

Ser Ala Lys Glu Arg Arg Glu Met Lys Lys Lys Lys Leu Pro Ser Asp
820 825 830

Ser Gly Asp Leu Glu Ala Leu Glu Gly Lys Asp Lys Glu Lys Glu Ser
835 840 845

Thr Val His Ile Glu Thr His Gln Asn Thr Ser Lys Asn Val Ala Ala
850 855 860

Val Gln Pro Met Lys Arg Gly Gln Lys Ser Lys Met Lys Lys Met Lys
865 870 875 880

Glu Lys Tyr Lys Asp Gln Asp Glu Glu Asp Arg Glu Leu Ile Met Lys
885 890 895

Leu Leu Gly Ser Ala Gly Ser Asn Lys Glu Glu Lys Gly Lys Lys Gly
900 905 910

Lys Lys Gly Lys Thr Lys Asp Glu Pro Val Lys Lys Gln Pro Gln Lys
915 920 925

Pro Arg Gly Gly Gln Arg Val Ser Asp Asn Ile Lys Lys Glu Thr Pro
930 935 940

Phe Leu Glu Val Ile Thr His Glu Leu Gln Asp Phe Ala Val Asp Asp
945 950 955 960

Pro His Asp Asp Lys Glu Glu Gln Asp Leu Asp Gln Gln Gly Asn Glu
965 970 975

Gln Asn Leu Phe Asp Ser Leu Thr Gly Gln Pro His Pro Glu Asp Val
980 985 990

Leu Leu Phe Ala Ile Pro Ile Cys Ala Pro Tyr Thr Thr Met Thr Asn
995 1000 1005

Tyr Lys Tyr Lys Val Lys Leu Thr Pro Gly Val Gln Lys Lys Gly
 1010 1015 1020

Lys Ala Ala Lys Thr Ala Leu Asn Ser Phe Met His Ser Lys Glu
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Ala Thr Ala Arg Glu Lys Asp Leu Phe Arg Ser Val Lys Asp Thr
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 Met Glu Ser
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ggc agg ggg tcc tca acc cct cca gga ccc att gct gcc cta ggg atg 583
 Gly Arg Gly Ser Ser Thr Pro Pro Gly Pro Ile Ala Ala Leu Gly Met
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cca gac act ggg cct ggc agt tcc tcc cta ggg aag ctt cag gcg ctc 631
 Pro Asp Thr Gly Pro Gly Ser Ser Ser Leu Gly Lys Leu Gln Ala Leu
 20 25 30 35

cct gtt ggg ccc aga gcc cac tgt ggg gac cct gtc agc ctg gct gca 679
 Pro Val Gly Pro Arg Ala His Cys Gly Asp Pro Val Ser Leu Ala Ala

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Ala	Gly	Asp	Gly	Ser	Pro	Asp	Ile	Gly	Pro	Thr	Gly	Glu	Leu	Ser	Gly					
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agc	tta	aag	atc	ccc	aac	cgg	gac	agc	ggg	atc	gac	agt	cca	tcc	tcc	775				
Ser	Leu	Lys	Ile	Pro	Asn	Arg	Asp	Ser	Gly	Ile	Asp	Ser	Pro	Ser	Ser					
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Ser	Val	Ala	Gly	Glu	Asn	Phe	Pro	Cys	Glu	Glu	Gly	Leu	Glu	Ala	Gly					
	85					90					95									
cca	agc	ccc	act	gta	ctg	ggg	gcg	cac	gca	gag	atg	gcc	ctg	gac	agc	871				
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cag	gtc	ccg	aag	gtc	acc	ccc	cag	gag	gag	gcg	gac	agc	gac	gtg	ggt	919				
Gln	Val	Pro	Lys	Val	Thr	Pro	Gln	Glu	Glu	Ala	Asp	Ser	Asp	Val	Gly					
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gac	cag	gtt	ttc	tgc	acc	agg	ctg	acg	gat	gcg	ggg	atc	cct	cca	gaa	1111				
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				280					285					290						
cac	atg	ctg	gag	ccc	gtg	cag	agg	gtc	ccc	cgg	tac	gag	ctg	ctg	ctc	1447				
His	Met	Leu	Glu	Pro	Val	Gln	Arg	Val	Pro	Arg	Tyr	Glu	Leu	Leu	Leu					

295					300					305					
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gcg gag agg tcc ttg gag ctc atc tcc aca gcc gcc aac cac tcc aat	Ala Glu Arg Ser Leu Glu Leu Ile Ser Thr Ala Ala Asn His Ser Asn	325	330	335	1543										
gct gcc att cgg aaa gtg gag aaa atg cac aag ctc ttg gag gtg tac	Ala Ala Ile Arg Lys Val Glu Lys Met His Lys Leu Leu Glu Val Tyr	340	345	350	1591										
gag cag ctg ggt ggg gaa gaa gac att gtc aac ccg gcc aat gaa ctg	Glu Gln Leu Gly Gly Glu Glu Asp Ile Val Asn Pro Ala Asn Glu Leu	360	365	370	1639										
atc aag gag ggc caa atc cag aaa ctg tca gcc aag aac ggc acc ccc	Ile Lys Glu Gly Gln Ile Gln Lys Leu Ser Ala Lys Asn Gly Thr Pro	375	380	385	1687										
cag gac cgc cac ctc ttc ctg ttc aac agc atg atc ctt tac tgt gtg	Gln Asp Arg His Leu Phe Leu Phe Asn Ser Met Ile Leu Tyr Cys Val	390	395	400	1735										
ccc aag ctg cgg ctc atg ggc cag aag ttc agc gtc cgg gag aag atg	Pro Lys Leu Arg Leu Met Gly Gln Lys Phe Ser Val Arg Glu Lys Met	405	410	415	1783										
gac atc tca ggc ctc cag gtg cag gat atc gtc aag cca aac aca gca	Asp Ile Ser Gly Leu Gln Val Gln Asp Ile Val Lys Pro Asn Thr Ala	420	425	430	1831										
cat aca ttc atc ata acg gga aga aaa agg tcc ctg gag ctg cag acg	His Thr Phe Ile Ile Thr Gly Arg Lys Arg Ser Leu Glu Leu Gln Thr	440	445	450	1879										
cgg aca gag gaa gag aag aaa gaa tgg att cag atc atc cag gcc acc	Arg Thr Glu Glu Glu Lys Lys Glu Trp Ile Gln Ile Ile Gln Ala Thr	455	460	465	1927										
atc gag aag cac aaa cag aac agc gaa acc ttc aag gct ttt ggt ggc	Ile Glu Lys His Lys Gln Asn Ser Glu Thr Phe Lys Ala Phe Gly Gly	470	475	480	1975										
gcc ttc agc cag gat gag gac ccc agc ctc tct cca gac atg cct atc	Ala Phe Ser Gln Asp Glu Asp Pro Ser Leu Ser Pro Asp Met Pro Ile	485	490	495	2023										
acg agc acc agc cct gtg gag cct gtg gtg acc acc gaa ggc agt tcg	Thr Ser Thr Ser Pro Val Glu Pro Val Val Thr Thr Glu Gly Ser Ser	500	505	510	2071										
ggt gca gca ggg ctc gag ccc aga aaa cta tcc tct aag acc aga cgt	Gly Ala Ala Gly Leu Glu Pro Arg Lys Leu Ser Ser Lys Thr Arg Arg	520	525	530	2119										
gac aag gag aag cag agc tgt aag agc tgt ggt gag acc ttc aac tcc	Asp Lys Glu Lys Gln Ser Cys Lys Ser Cys Gly Glu Thr Phe Asn Ser	535	540	545	2167										
atc acc aag agg agg cat cac tgc aag ctg tgt ggg gcg gtc atc tgt	Ile Thr Lys Arg Arg His His Cys Lys Leu Cys Gly Ala Val Ile Cys				2215										

550	555	560	
ggg aag tgc tcc gag ttc aag gcc gag aac agc cgg cag agc cgt gtc Gly Lys Cys Ser Glu Phe Lys Ala Glu Asn Ser Arg Gln Ser Arg Val 565 570 575			2263
tgc aga gat tgt ttc ctg aca cag cca gtg gcc cct gag agc aca gag Cys Arg Asp Cys Phe Leu Thr Gln Pro Val Ala Pro Glu Ser Thr Glu 580 585 590 595			2311
aag aca ccc act gca gac ccc cag ccc agc ctg ctc tgc ggc ccc ctg Lys Thr Pro Thr Ala Asp Pro Gln Pro Ser Leu Leu Cys Gly Pro Leu 600 605 610			2359
cgg ctg tca gag agc ggt gag acc tgg agc gag gtg tgg gcc gcc atc Arg Leu Ser Glu Ser Gly Glu Thr Trp Ser Glu Val Trp Ala Ala Ile 615 620 625			2407
ccc atg tca gat ccc cag gtg ctg cac ctg cag gga ggc agc cag gac Pro Met Ser Asp Pro Gln Val Leu His Leu Gln Gly Gly Ser Gln Asp 630 635 640			2455
ggc cgg ctg ccc cgc acc atc cct ctc ccc agc tgc aaa ctg agt gtg Gly Arg Leu Pro Arg Thr Ile Pro Leu Pro Ser Cys Lys Leu Ser Val 645 650 655			2503
ccg gac cct gag gag agg ctg gac tcg ggg cat gtg tgg aag ctg cag Pro Asp Pro Glu Glu Arg Leu Asp Ser Gly His Val Trp Lys Leu Gln 660 665 670 675			2551
tgg gcc aag cag tcc tgg tac ctg agc gcc tcc tcc gca gag ctg cag Trp Ala Lys Gln Ser Trp Tyr Leu Ser Ala Ser Ser Ala Glu Leu Gln 680 685 690			2599
cag cag tgg ctg gaa acc cta agc act gct gcc cat ggg gac acg gcc Gln Gln Trp Leu Glu Thr Leu Ser Thr Ala Ala His Gly Asp Thr Ala 695 700 705			2647
cag gac agc ccg ggg gcc ctg cag ctt cag gtc cct atg ggc gca gct Gln Asp Ser Pro Gly Ala Leu Gln Leu Gln Val Pro Met Gly Ala Ala 710 715 720			2695
gct ccg tgagctgagt ctccactgc cctgcacacc accacattgg acctgtgctg Ala Pro 725			2751
tcctgggagg tgggtgttga ggcccatga agagcgccct ggactgctga ggggtgggcca			2811
acagcccaga gctcaggaca cttggctttg gggggaagga aactgaggcc cagagagggg			2871
caaccactgg ccaaggggtca ccagcaagt tttggctaag agcctggcct ccagccccag			2931
cagtgtggcc cagagcaggg gccgactgcc aaagtaacca tcatccatat gggccgtgtg			2991
gtgatgctgg ccggaaggc agaaagaggc agcatgggca ctgccaggga cagccacatc			3051
ctgctggtct gcagcgtggt ccaccccgcc tctgccagc ctgtctacac cgtgtgagct			3111
gaatcgtgac ttgcttccca cctcctttct ctgtcctctc ctgaggttct gcctgcagcc			3171
cccaggaggt gggcctgccc catcctagct ggactcatgg ttcctaaata accacgctca			3231
gaagctctgc taggacttac ccagccact gagtggcagg cgcattgagat ttgtggctgt			3291

```

tcttgatgct agtggcacac agtgottatc tgcataaata aacactggcc accagcaaaa 3351
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 3411
aaaaaaaaaa aaaaaaaaaa aaaaaaaa 3438

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<210> 30
<211> 725
<212> PRT
<213> Homo sapiens

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<400> 30

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Met Glu Ser Gly Arg Gly Ser Ser Thr Pro Pro Gly Pro Ile Ala Ala
1          5          10          15

```

```

Leu Gly Met Pro Asp Thr Gly Pro Gly Ser Ser Ser Leu Gly Lys Leu
          20          25          30

```

```

Gln Ala Leu Pro Val Gly Pro Arg Ala His Cys Gly Asp Pro Val Ser
          35          40          45

```

```

Leu Ala Ala Ala Gly Asp Gly Ser Pro Asp Ile Gly Pro Thr Gly Glu
          50          55          60

```

```

Leu Ser Gly Ser Leu Lys Ile Pro Asn Arg Asp Ser Gly Ile Asp Ser
          65          70          75          80

```

```

Pro Ser Ser Ser Val Ala Gly Glu Asn Phe Pro Cys Glu Glu Gly Leu
          85          90          95

```

```

Glu Ala Gly Pro Ser Pro Thr Val Leu Gly Ala His Ala Glu Met Ala
          100          105          110

```

```

Leu Asp Ser Gln Val Pro Lys Val Thr Pro Gln Glu Glu Ala Asp Ser
          115          120          125

```

```

Asp Val Gly Glu Glu Pro Asp Ser Glu Asn Thr Pro Gln Lys Ala Asp
          130          135          140

```

```

Lys Asp Ala Gly Leu Ala Gln His Ser Gly Pro Gln Lys Leu Leu His
          145          150          155          160

```

```

Ile Ala Gln Glu Leu Leu His Thr Glu Glu Thr Tyr Val Lys Arg Leu
          165          170          175

```

```

His Leu Leu Asp Gln Val Phe Cys Thr Arg Leu Thr Asp Ala Gly Ile
          180          185          190

```

```

Pro Pro Glu Val Ile Met Gly Ile Phe Ser Asn Ile Ser Ser Ile His
          195          200          205

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Arg Phe His Gly Gln Phe Leu Leu Pro Glu Leu Lys Thr Arg Ile Thr
210 215 220

Glu Glu Trp Asp Thr Asn Pro Arg Leu Gly Asp Ile Leu Gln Lys Leu
225 230 235 240

Ala Pro Phe Leu Lys Met Tyr Gly Glu Tyr Val Lys Asn Phe Asp Arg
245 250 255

Ala Val Gly Leu Val Ser Thr Trp Thr Gln Arg Ser Pro Leu Phe Lys
260 265 270

Asp Val Val His Ser Ile Gln Lys Gln Glu Val Cys Gly Asn Leu Thr
275 280 285

Leu Gln His His Met Leu Glu Pro Val Gln Arg Val Pro Arg Tyr Glu
290 295 300

Leu Leu Leu Lys Asp Tyr Leu Lys Arg Leu Pro Gln Asp Ala Pro Asp
305 310 315 320

Arg Lys Asp Ala Glu Arg Ser Leu Glu Leu Ile Ser Thr Ala Ala Asn
325 330 335

His Ser Asn Ala Ala Ile Arg Lys Val Glu Lys Met His Lys Leu Leu
340 345 350

Glu Val Tyr Glu Gln Leu Gly Gly Glu Glu Asp Ile Val Asn Pro Ala
355 360 365

Asn Glu Leu Ile Lys Glu Gly Gln Ile Gln Lys Leu Ser Ala Lys Asn
370 375 380

Gly Thr Pro Gln Asp Arg His Leu Phe Leu Phe Asn Ser Met Ile Leu
385 390 395 400

Tyr Cys Val Pro Lys Leu Arg Leu Met Gly Gln Lys Phe Ser Val Arg
405 410 415

Glu Lys Met Asp Ile Ser Gly Leu Gln Val Gln Asp Ile Val Lys Pro
420 425 430

Asn Thr Ala His Thr Phe Ile Ile Thr Gly Arg Lys Arg Ser Leu Glu
435 440 445

Leu Gln Thr Arg Thr Glu Glu Glu Lys Lys Glu Trp Ile Gln Ile Ile
450 455 460

Gln Ala Thr Ile Glu Lys His Lys Gln Asn Ser Glu Thr Phe Lys Ala
 465 470 475 480

Phe Gly Gly Ala Phe Ser Gln Asp Glu Asp Pro Ser Leu Ser Pro Asp
 485 490 495

Met Pro Ile Thr Ser Thr Ser Pro Val Glu Pro Val Val Thr Thr Glu
 500 505 510

Gly Ser Ser Gly Ala Ala Gly Leu Glu Pro Arg Lys Leu Ser Ser Lys
 515 520 525

Thr Arg Arg Asp Lys Glu Lys Gln Ser Cys Lys Ser Cys Gly Glu Thr
 530 535 540

Phe Asn Ser Ile Thr Lys Arg Arg His His Cys Lys Leu Cys Gly Ala
 545 550 555 560

Val Ile Cys Gly Lys Cys Ser Glu Phe Lys Ala Glu Asn Ser Arg Gln
 565 570 575

Ser Arg Val Cys Arg Asp Cys Phe Leu Thr Gln Pro Val Ala Pro Glu
 580 585 590

Ser Thr Glu Lys Thr Pro Thr Ala Asp Pro Gln Pro Ser Leu Leu Cys
 595 600 605

Gly Pro Leu Arg Leu Ser Glu Ser Gly Glu Thr Trp Ser Glu Val Trp
 610 615 620

Ala Ala Ile Pro Met Ser Asp Pro Gln Val Leu His Leu Gln Gly Gly
 625 630 635 640

Ser Gln Asp Gly Arg Leu Pro Arg Thr Ile Pro Leu Pro Ser Cys Lys
 645 650 655

Leu Ser Val Pro Asp Pro Glu Glu Arg Leu Asp Ser Gly His Val Trp
 660 665 670

Lys Leu Gln Trp Ala Lys Gln Ser Trp Tyr Leu Ser Ala Ser Ser Ala
 675 680 685

Glu Leu Gln Gln Gln Trp Leu Glu Thr Leu Ser Thr Ala Ala His Gly
 690 695 700

Asp Thr Ala Gln Asp Ser Pro Gly Ala Leu Gln Leu Gln Val Pro Met
 705 710 715 720

Gly Ala Ala Ala Pro
725

<210> 31
<211> 1738
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (121)..(972)
<223>

<400> 31
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cgaccgcgcg ctgcgcccg cgctcctgct gcagccccag ggcccctcgc cgccgccacc 120
atg gac gcc atc aag aag aag atg cag atg ctg aag ctc gac aag gag 168
Met Asp Ala Ile Lys Lys Lys Met Gln Met Leu Lys Leu Asp Lys Glu
1 5 10 15
aac gcc ttg gat cga gct gag cag gcg gag gcc gac aag aag gcg gcg 216
Asn Ala Leu Asp Arg Ala Glu Gln Ala Glu Ala Asp Lys Lys Ala Ala
20 25 30
gaa gac agg agc aag cag ctc gag gag gac atc gcg gcc aag gag aag 264
Glu Asp Arg Ser Lys Gln Leu Glu Glu Asp Ile Ala Ala Lys Glu Lys
35 40 45
ttg ctg cgg gtg tcg gag gac gag cgg gac cgg gtg ctg gag gag ctg 312
Leu Leu Arg Val Ser Glu Asp Glu Arg Asp Arg Val Leu Glu Glu Leu
50 55 60
cac aag gcg gag gac agc ctc ctg gcc gcc gaa gag gcc gcc gcc aag 360
His Lys Ala Glu Asp Ser Leu Leu Ala Ala Glu Glu Ala Ala Ala Lys
65 70 75 80
gct gaa gcc gac gta gct tct ctg aac aga cgc atc cag ctg gtt gag 408
Ala Glu Ala Asp Val Ala Ser Leu Asn Arg Arg Ile Gln Leu Val Glu
85 90 95
gaa gag ttg gat cgt gcc cag gag cgt ctg gca aca gct ttg cag aag 456
Glu Glu Leu Asp Arg Ala Gln Glu Arg Leu Ala Thr Ala Leu Gln Lys
100 105 110
ctg gag gaa gct gag aag gca gca gat gag agt gag aga ggc atg aaa 504
Leu Glu Glu Ala Glu Lys Ala Ala Asp Glu Ser Glu Arg Gly Met Lys
115 120 125
gtc att gag agt cga gcc caa aaa gat gaa gaa aaa atg gaa att cag 552
Val Ile Glu Ser Arg Ala Gln Lys Asp Glu Glu Lys Met Glu Ile Gln
130 135 140
gag atc caa ctg aaa gag gca aag cac att gct gaa gat gcc gac cgc 600
Glu Ile Gln Leu Lys Glu Ala Lys His Ile Ala Glu Asp Ala Asp Arg
145 150 155 160
aaa tat gaa gag gtg gcc cgt aag ctg gtc atc att gag agc gac ctg 648
Lys Tyr Glu Glu Val Ala Arg Lys Leu Val Ile Ile Glu Ser Asp Leu

165	170	175	
gaa cgt gca gag gag cgg gct gag ctc tca gaa ggc caa gtc cga cag Glu Arg Ala Glu Glu Arg Ala Glu Leu Ser Glu Gly Gln Val Arg Gln 180 185 190			696
ctg gaa gaa caa tta aga ata atg gat cag acc ttg aaa gca tta atg Leu Glu Glu Gln Leu Arg Ile Met Asp Gln Thr Leu Lys Ala Leu Met 195 200 205			744
gct gca gag gat aag tac tcg cag aag gaa gac aga tat gag gaa gag Ala Ala Glu Asp Lys Tyr Ser Gln Lys Glu Asp Arg Tyr Glu Glu Glu 210 215 220			792
atc aag gtc ctt tcc gac aag ctg aag gag gct gag act cgg gct gag Ile Lys Val Leu Ser Asp Lys Leu Lys Glu Ala Glu Thr Arg Ala Glu 225 230 235 240			840
ttt gcg gag agg tca gta act aaa ttg gag aaa agc att gat gac tta Phe Ala Glu Arg Ser Val Thr Lys Leu Glu Lys Ser Ile Asp Asp Leu 245 250 255			888
gaa gag aaa gtg gct cat gcc aaa gaa gaa aac ctt agt atg cat cag Glu Glu Lys Val Ala His Ala Lys Glu Glu Asn Leu Ser Met His Gln 260 265 270			936
atg ctg gat cag act tta ctg gag tta aac aac atg tgaaaacctc Met Leu Asp Gln Thr Leu Leu Glu Leu Asn Asn Met 275 280			982
cttagctgcg accacattct ttcattttgt tttgttttgt tttgttttta aacacctgct			1042
tacccttaaa atgcaattta ttacttttta ccactgtcac agaaacatcc acaagatacc			1102
agctagggtca gggggtgggg aaaacacata caaaaaggca agcccatgtc agggcgatcc			1162
tggttcaaat gtgccatttc ccgggttgat gctgccacac tttgtagaga gtttagcaac			1222
acagtgtgct tagtcagcgt aggaatcctc actaaagcag gagaagttcc attcaaagtg			1282
ccaatgatag agtcaacagg aagggttaatg ttggaaacac aatcaggtgt ggattggtgc			1342
tactttgaac aaaaggtccc cctgtggtct tttgttcaac attgtacaat gtagaactct			1402
gtccaacact aatttatatt gtcttgagtt ttactacaag atgagactat ggatcccgca			1462
tgccctgaatt cactaaagcc aagggtctgt aagccacgct gctcttctga gacttccatt			1522
cctttctgat tggcacacgt gcagctcatg acaatctgta ggataacaat cagtgtggat			1582
ttccactctt ttcagtcctt catgttaaag atttagacac cacatacaac tggtaaagga			1642
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cattgtagga catttttctaa aaaaaaaaaa aaaaaa			1738

<210> 32
 <211> 284
 <212> PRT
 <213> Homo sapiens

<400> 32

Met Asp Ala Ile Lys Lys Lys Met Gln Met Leu Lys Leu Asp Lys Glu
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Asn Ala Leu Asp Arg Ala Glu Gln Ala Glu Ala Asp Lys Lys Ala Ala
20 25 30
Glu Asp Arg Ser Lys Gln Leu Glu Glu Asp Ile Ala Ala Lys Glu Lys
35 40 45
Leu Leu Arg Val Ser Glu Asp Glu Arg Asp Arg Val Leu Glu Glu Leu
50 55 60
His Lys Ala Glu Asp Ser Leu Leu Ala Ala Glu Glu Ala Ala Ala Lys
65 70 75 80
Ala Glu Ala Asp Val Ala Ser Leu Asn Arg Arg Ile Gln Leu Val Glu
85 90 95
Glu Glu Leu Asp Arg Ala Gln Glu Arg Leu Ala Thr Ala Leu Gln Lys
100 105 110
Leu Glu Glu Ala Glu Lys Ala Ala Asp Glu Ser Glu Arg Gly Met Lys
115 120 125
Val Ile Glu Ser Arg Ala Gln Lys Asp Glu Glu Lys Met Glu Ile Gln
130 135 140
Glu Ile Gln Leu Lys Glu Ala Lys His Ile Ala Glu Asp Ala Asp Arg
145 150 155 160
Lys Tyr Glu Glu Val Ala Arg Lys Leu Val Ile Ile Glu Ser Asp Leu
165 170 175
Glu Arg Ala Glu Glu Arg Ala Glu Leu Ser Glu Gly Gln Val Arg Gln
180 185 190
Leu Glu Glu Gln Leu Arg Ile Met Asp Gln Thr Leu Lys Ala Leu Met
195 200 205
Ala Ala Glu Asp Lys Tyr Ser Gln Lys Glu Asp Arg Tyr Glu Glu Glu
210 215 220
Ile Lys Val Leu Ser Asp Lys Leu Lys Glu Ala Glu Thr Arg Ala Glu
225 230 235 240
Phe Ala Glu Arg Ser Val Thr Lys Leu Glu Lys Ser Ile Asp Asp Leu
245 250 255

Glu Glu Lys Val Ala His Ala Lys Glu Glu Asn Leu Ser Met His Gln
260 265 270

Met Leu Asp Gln Thr Leu Leu Glu Leu Asn Asn Met
275 280

<210> 33
<211> 1138
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (231)..(965)
<223>

<400> 33
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gctgcgactt ccggactgct cctggccgca gggggcgccg ccgtcgacac gagaggcctg 120
ggcggggcgcg accggcgctg ggcagccagg acagccgcg cagccggggtc cgcagggcag 180
cagccgggct ctcccactgc agccctcccg cccgcctacc gtccggcgcg atg gcg 236
Met Ala
1
ggg agt agc tcg ctg gag gcg gtg cgc agg aag atc cgg agc ctg cag 284
Gly Ser Ser Ser Leu Glu Ala Val Arg Arg Lys Ile Arg Ser Leu Gln
5 10 15
gag cag gcg gac gcc gct gag gag cgc gcg ggc acc ctg cag cgc gag 332
Glu Gln Ala Asp Ala Ala Glu Glu Arg Ala Gly Thr Leu Gln Arg Glu
20 25 30
ctg gac cac gag agg aag ctg agg gag acc gct gaa gcc gac gta gct 380
Leu Asp His Glu Arg Lys Leu Arg Glu Thr Ala Glu Ala Asp Val Ala
35 40 45 50
tct ctg aac aga cgc atc cag ctg gtt gag gaa gag ttg gat cgt gcc 428
Ser Leu Asn Arg Arg Ile Gln Leu Val Glu Glu Glu Leu Asp Arg Ala
55 60 65
cag gag cgt ctg gca aca gct ttg cag aag ctg gag gaa gct gag aag 476
Gln Glu Arg Leu Ala Thr Ala Leu Gln Lys Leu Glu Glu Ala Glu Lys
70 75 80
gca gca gat gag agt gag aga ggc atg aaa gtc att gag agt cga gcc 524
Ala Ala Asp Glu Ser Glu Arg Gly Met Lys Val Ile Glu Ser Arg Ala
85 90 95
caa aaa gat gaa gaa aaa atg gaa att cag gag atc caa ctg aaa gag 572
Gln Lys Asp Glu Glu Lys Met Glu Ile Gln Glu Ile Gln Leu Lys Glu
100 105 110
gca aag cac att gct gaa gat gcc gac cgc aaa tat gaa gag gtg gcc 620
Ala Lys His Ile Ala Glu Asp Ala Asp Arg Lys Tyr Glu Glu Val Ala
115 120 125 130
cgt aag ctg gtc atc att gag agc gac ctg gaa cgt gca gag gag cgg 668
Arg Lys Leu Val Ile Ile Glu Ser Asp Leu Glu Arg Ala Glu Glu Arg

135										140					145					
gct	gag	ctc	tca	gaa	ggc	aaa	tgt	gcc	gag	ctt	gaa	gaa	gaa	ttg	aaa	716				
Ala	Glu	Leu	Ser	Glu	Gly	Lys	Cys	Ala	Glu	Leu	Glu	Glu	Glu	Leu	Lys					
150							155					160								
act	gtg	acg	aac	aac	ttg	aag	tca	ctg	gag	gct	cag	gct	gag	aag	tac	764				
Thr	Val	Thr	Asn	Asn	Leu	Lys	Ser	Leu	Glu	Ala	Gln	Ala	Glu	Lys	Tyr					
165							170					175								
tcg	cag	aag	gaa	gac	aga	tat	gag	gaa	gag	atc	aag	gtc	ctt	tcc	gac	812				
Ser	Gln	Lys	Glu	Asp	Arg	Tyr	Glu	Glu	Glu	Ile	Lys	Val	Leu	Ser	Asp					
180							185					190								
aag	ctg	aag	gag	gct	gag	act	cgg	gct	gag	ttt	gcg	gag	agg	tca	gta	860				
Lys	Leu	Lys	Glu	Ala	Glu	Thr	Arg	Ala	Glu	Phe	Ala	Glu	Arg	Ser	Val					
195					200					205					210					
act	aaa	ttg	gag	aaa	agc	att	gat	gac	tta	gaa	gat	caa	ctc	tac	cag	908				
Thr	Lys	Leu	Glu	Lys	Ser	Ile	Asp	Asp	Leu	Glu	Asp	Gln	Leu	Tyr	Gln					
215							220					225								
caa	ctt	gag	caa	aat	cgc	cgc	ctc	act	aat	gaa	cta	aag	ctg	gcc	ctg	956				
Gln	Leu	Glu	Gln	Asn	Arg	Arg	Leu	Thr	Asn	Glu	Leu	Lys	Leu	Ala	Leu					
230							235					240								
aat gag gat taaacttaag agtgaaaaaa cttgggctga attctaggcg																1005				
Asn Glu Asp																				
245																				
tggagcccat gtgcagaaaa tctaagactg tcctaccctt caactaatag agttgaaaac																1065				
agttgctttc tgcagaaatg caaatgcaag gaattggctg aaaggctggc cttgcctgct																1125				
tgttttctcta tat																1138				

<210> 34
 <211> 245
 <212> PRT
 <213> Homo sapiens

<400> 34

Met	Ala	Gly	Ser	Ser	Ser	Leu	Glu	Ala	Val	Arg	Arg	Lys	Ile	Arg	Ser
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Leu	Gln	Glu	Gln	Ala	Asp	Ala	Ala	Glu	Glu	Arg	Ala	Gly	Thr	Leu	Gln
			20					25					30		
Arg	Glu	Leu	Asp	His	Glu	Arg	Lys	Leu	Arg	Glu	Thr	Ala	Glu	Ala	Asp
		35					40					45			
Val	Ala	Ser	Leu	Asn	Arg	Arg	Ile	Gln	Leu	Val	Glu	Glu	Glu	Leu	Asp
	50					55					60				
Arg	Ala	Gln	Glu	Arg	Leu	Ala	Thr	Ala	Leu	Gln	Lys	Leu	Glu	Glu	Ala
65					70					75					80

Glu Lys Ala Ala Asp Glu Ser Glu Arg Gly Met Lys Val Ile Glu Ser
 85 90 95
 Arg Ala Gln Lys Asp Glu Glu Lys Met Glu Ile Gln Glu Ile Gln Leu
 100 105 110
 Lys Glu Ala Lys His Ile Ala Glu Asp Ala Asp Arg Lys Tyr Glu Glu
 115 120 125
 Val Ala Arg Lys Leu Val Ile Ile Glu Ser Asp Leu Glu Arg Ala Glu
 130 135 140
 Glu Arg Ala Glu Leu Ser Glu Gly Lys Cys Ala Glu Leu Glu Glu Glu
 145 150 155 160
 Leu Lys Thr Val Thr Asn Asn Leu Lys Ser Leu Glu Ala Gln Ala Glu
 165 170 175
 Lys Tyr Ser Gln Lys Glu Asp Arg Tyr Glu Glu Glu Ile Lys Val Leu
 180 185 190
 Ser Asp Lys Leu Lys Glu Ala Glu Thr Arg Ala Glu Phe Ala Glu Arg
 195 200 205
 Ser Val Thr Lys Leu Glu Lys Ser Ile Asp Asp Leu Glu Asp Gln Leu
 210 215 220
 Tyr Gln Gln Leu Glu Gln Asn Arg Arg Leu Thr Asn Glu Leu Lys Leu
 225 230 235 240
 Ala Leu Asn Glu Asp
 245

<210> 35
 <211> 1496
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (257)..(730)
 <223>

<400> 35
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 ggagcgcgcg ggcaccctgc agcgcgagct ggaccacgag aggaagctga gggagaccgc 120
 tgaagccgac gtagcttctc tgaacagacg catccagctg gttgaggaag agttggatcg 180
 tgcccaggag cgtctggcaa cagctttgca gaagctggag gaagctgaga aggcagcaga 240

tgagagtgag agaggc atg aaa gtc att gag agt cga gcc caa aaa gat gaa	292
Met Lys Val Ile Glu Ser Arg Ala Gln Lys Asp Glu	
1 5 10	
gaa aaa atg gaa att cag gag atc caa ctg aaa gag gca aag cac att	340
Glu Lys Met Glu Ile Gln Glu Ile Gln Leu Lys Glu Ala Lys His Ile	
15 20 25	
gct gaa gat gcc gac cgc aaa tat gaa gag gtg gcc cgt aag ctg gtc	388
Ala Glu Asp Ala Asp Arg Lys Tyr Glu Glu Val Ala Arg Lys Leu Val	
30 35 40	
atc att gag agc gac ctg gaa cgt gca gag gag cgg gct gag ctc tca	436
Ile Ile Glu Ser Asp Leu Glu Arg Ala Glu Glu Arg Ala Glu Leu Ser	
45 50 55 60	
gaa ggc caa gtc cga cag ctg gaa gaa caa tta aga ata atg gat cag	484
Glu Gly Gln Val Arg Gln Leu Glu Glu Gln Leu Arg Ile Met Asp Gln	
65 70 75	
acc ttg aaa gca tta atg gct gca gag gat aag tac tcg cag aag gaa	532
Thr Leu Lys Ala Leu Met Ala Ala Glu Asp Lys Tyr Ser Gln Lys Glu	
80 85 90	
gac aga tat gag gaa gag atc aag gtc ctt tcc gac aag ctg aag gag	580
Asp Arg Tyr Glu Glu Glu Ile Lys Val Leu Ser Asp Lys Leu Lys Glu	
95 100 105	
gct gag act cgg gct gag ttt gcg gag agg tca gta act aaa ttg gag	628
Ala Glu Thr Arg Ala Glu Phe Ala Glu Arg Ser Val Thr Lys Leu Glu	
110 115 120	
aaa agc att gat gac tta gaa gag aaa gtg gct cat gcc aaa gaa gaa	676
Lys Ser Ile Asp Asp Leu Glu Glu Lys Val Ala His Ala Lys Glu Glu	
125 130 135 140	
aac ctt agt atg cat cag atg ctg gat cag act tta ctg gag tta aac	724
Asn Leu Ser Met His Gln Met Leu Asp Gln Thr Leu Leu Glu Leu Asn	
145 150 155	
aac atg tgaaaacctc cttagctgcg accacattct ttcattttgt tttgttttgt	780
Asn Met	
tttgttttta aacacctgct tacccttaa atgcaattta tttactttta ccactgtcac	840
agaaacatcc acaagatacc agctaggtca gggggtggg aaaacacata caaaaaggca	900
agcccatgtc agggcgatcc tggttcaaat gtgccatttc ccgggttgat gctgccacac	960
tttgtagaga gtttagcaac acagtgtgct tagtcagcgt aggaatcctc actaaagcag	1020
gagaagttcc attcaaagtg ccaatgatag agtcaacagg aaggttaatg ttggaaacac	1080
aatcaggtgt ggattggtgc tactttgaac aaaagggtccc cctgtggtct tttgttcaac	1140
attgtacaat gtagaactct gtccaacact aatttatattt gtcttgagtt ttactacaag	1200
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ggataacaat cagtgtggat ttccactctt ttcagtcctt catgttaaag atttagacac	1380

cacatacaac tggtaaagga cgttttcttg agagtttttaa ctatatgtaa acattgtata 1440
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 20 25 30

Asp Arg Lys Tyr Glu Glu Val Ala Arg Lys Leu Val Ile Ile Glu Ser
 35 40 45

Asp Leu Glu Arg Ala Glu Glu Arg Ala Glu Leu Ser Glu Gly Gln Val
 50 55 60

Arg Gln Leu Glu Glu Gln Leu Arg Ile Met Asp Gln Thr Leu Lys Ala
 65 70 75 80

Leu Met Ala Ala Glu Asp Lys Tyr Ser Gln Lys Glu Asp Arg Tyr Glu
 85 90 95

Glu Glu Ile Lys Val Leu Ser Asp Lys Leu Lys Glu Ala Glu Thr Arg
 100 105 110

Ala Glu Phe Ala Glu Arg Ser Val Thr Lys Leu Glu Lys Ser Ile Asp
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Asp Leu Glu Glu Lys Val Ala His Ala Lys Glu Glu Asn Leu Ser Met
 130 135 140

His Gln Met Leu Asp Gln Thr Leu Leu Glu Leu Asn Asn Met
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tgacatctgc gggccgggga cctgcatgtg tgtgcgcgcg aaggagcgga aga atg	176
	Met
	1
gca gtg ctc aaa ctc acc gac cag cca cca ttg gtt cag gca atc ttc	224
Ala Val Leu Lys Leu Thr Asp Gln Pro Pro Leu Val Gln Ala Ile Phe	
	5 10 15
agc ggt gat cca gag gag atc cgg atg ctc atc cat aaa act gaa gat	272
Ser Gly Asp Pro Glu Glu Ile Arg Met Leu Ile His Lys Thr Glu Asp	
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gtg aat act ctg gat tct gag aaa cga acc cct ctt cat gtg gcc gca	320
Val Asn Thr Leu Asp Ser Glu Lys Arg Thr Pro Leu His Val Ala Ala	
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ttt ctg gga gat gca gag atc att gaa ctc ctg att ttg tca gga gct	368
Phe Leu Gly Asp Ala Glu Ile Ile Glu Leu Leu Ile Leu Ser Gly Ala	
	50 55 60 65
cgt gta aat gcc aag gac aac atg tgg ctg act cca ctg cac cgg gct	416
Arg Val Asn Ala Lys Asp Asn Met Trp Leu Thr Pro Leu His Arg Ala	
	70 75 80
gtt gct tcc aga agc gaa gaa gca gta cag gtt ttg att aag cac tca	464
Val Ala Ser Arg Ser Glu Glu Ala Val Gln Val Leu Ile Lys His Ser	
	85 90 95
gct gat gtc aat gca agg gac aag aac tgg cag acc cct ctt cat gtg	512
Ala Asp Val Asn Ala Arg Asp Lys Asn Trp Gln Thr Pro Leu His Val	
	100 105 110
gca gca gcc aac aag gct gtc aaa tgt gca gaa gtg atc att ccc ctg	560
Ala Ala Ala Asn Lys Ala Val Lys Cys Ala Glu Val Ile Ile Pro Leu	
	115 120 125
ctg agc agt gtc aat gtc tcc gac cga ggg ggg cgc aca gcc ttg cac	608
Leu Ser Ser Val Asn Val Ser Asp Arg Gly Gly Arg Thr Ala Leu His	
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cat gcg gct ctg aac ggc cac gtg gag atg gtc aat tta ctc ttg gcc	656
His Ala Ala Leu Asn Gly His Val Glu Met Val Asn Leu Leu Leu Ala	
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aaa ggg gca aat atc aat gca ttt gac aag aag gac cgg cgt gct ctg	704
Lys Gly Ala Asn Ile Asn Ala Phe Asp Lys Lys Asp Arg Arg Ala Leu	
	165 170 175
cac tgg gca gca tac atg ggc cac ttg gat gtt gta gca ttg ctc att	752
His Trp Ala Ala Tyr Met Gly His Leu Asp Val Val Ala Leu Leu Ile	
	180 185 190
aac cat ggc gca gaa gtg acc tgt aag gat aag aag ggt tat acc cct	800
Asn His Gly Ala Glu Val Thr Cys Lys Asp Lys Lys Gly Tyr Thr Pro	
	195 200 205
ctg cat gct gca gcc tcc aat gga cag att aat gtt gtc aag cat ctc	848
Leu His Ala Ala Ala Ser Asn Gly Gln Ile Asn Val Val Lys His Leu	
	210 215 220 225

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ggg ctt cac atc gcc tgc tac aat gga cag gat gct gtg gtt aac gag Ala Leu His Ile Ala Cys Tyr Asn Gly Gln Asp Ala Val Val Asn Glu 245 250 255	944
ttg att gac tac ggt gct aac gtg aac cag cca aac aat aat ggg ttc Leu Ile Asp Tyr Gly Ala Asn Val Asn Gln Pro Asn Asn Asn Gly Phe 260 265 270	992
acc cct ttg cat ttt gct gct gcc tcc act cat ggt gct ttg tgt ctt Thr Pro Leu His Phe Ala Ala Ala Ser Thr His Gly Ala Leu Cys Leu 275 280 285	1040
gaa ttg tta gta aac aac ggg gca gat gtt aac att cag agt aaa gat Glu Leu Leu Val Asn Asn Gly Ala Asp Val Asn Ile Gln Ser Lys Asp 290 295 300 305	1088
ggc aaa agt cca ctg cac atg aca gct gtc cat gga agg ttc aca cgg Gly Lys Ser Pro Leu His Met Thr Ala Val His Gly Arg Phe Thr Arg 310 315 320	1136
tca cag acc ctc att cag aat gga ggt gaa att gac tgt gtg gat aag Ser Gln Thr Leu Ile Gln Asn Gly Gly Glu Ile Asp Cys Val Asp Lys 325 330 335	1184
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atc cat agc atg ttc cct tta cat tta gct gcc cta aat gct cac tct Ile His Ser Met Phe Pro Leu His Leu Ala Ala Leu Asn Ala His Ser 370 375 380 385	1328
gac tgc tgc aga aag ttg tta tca tgc gga caa aag tat agc ata gta Asp Cys Cys Arg Lys Leu Leu Ser Ser Gly Gln Lys Tyr Ser Ile Val 390 395 400	1376
tcc ttg ttt agt aat gag cac gtg ctg tct gca ggc ttt gaa ata gac Ser Leu Phe Ser Asn Glu His Val Leu Ser Ala Gly Phe Glu Ile Asp 405 410 415	1424
acc cca gat aaa ttt gga aga acg tgc ctt cat gct gct gct gca gga Thr Pro Asp Lys Phe Gly Arg Thr Cys Leu His Ala Ala Ala Ala Gly 420 425 430	1472
ggg aat gtg gaa tgt ata aaa ctc ttg cag agc agc gga gca gat ttc Gly Asn Val Glu Cys Ile Lys Leu Leu Gln Ser Ser Gly Ala Asp Phe 435 440 445	1520
cat aaa aag gac aag tgt ggg agg acc cct ttg cac tat gca gct gcg His Lys Lys Asp Lys Cys Gly Arg Thr Pro Leu His Tyr Ala Ala Ala 450 455 460 465	1568
aat tgt cat ttc cac tgt att gag aca tta gtg acc aca ggg gcc aac Asn Cys His Phe His Cys Ile Glu Thr Leu Val Thr Thr Gly Ala Asn 470 475 480	1616

gtt aat gaa aca gat gac tgg gga cgc aca gct ttg cat tac gcc gct Val Asn Glu Thr Asp Asp Trp Gly Arg Thr Ala Leu His Tyr Ala Ala 485 490 495	1664
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aat tca gaa gaa ctt gaa aga gcc agg gag ctg aag gaa aag gaa gcc Asn Ser Glu Glu Leu Glu Arg Ala Arg Glu Leu Lys Glu Lys Glu Ala 515 520 525	1760
aca cta tgt cta gag ttt ctg ctt caa aat gat gca aat cca tct atc Thr Leu Cys Leu Glu Phe Leu Leu Gln Asn Asp Ala Asn Pro Ser Ile 530 535 540 545	1808
cgg gac aag gaa ggt tac aat agc ata cat tat gct gcc gcc tat ggg Arg Asp Lys Glu Gly Tyr Asn Ser Ile His Tyr Ala Ala Ala Tyr Gly 550 555 560	1856
cac agg cag tgt ctg gaa ttg ctt ttg gaa aga aca aac agt gga ttt His Arg Gln Cys Leu Glu Leu Leu Leu Glu Arg Thr Asn Ser Gly Phe 565 570 575	1904
gaa gaa tca gat tct ggt gct act aag agt cca ctc cac tta gct gcc Glu Glu Ser Asp Ser Gly Ala Thr Lys Ser Pro Leu His Leu Ala Ala 580 585 590	1952
tac aat ggg cac cat caa gcc ttg gaa gtc ctt ctg cag tcg ttg gtg Tyr Asn Gly His His Gln Ala Leu Glu Val Leu Leu Gln Ser Leu Val 595 600 605	2000
gac ctg gac atc agg gat gag aaa ggc cgc act gct ctg gat ctg gct Asp Leu Asp Ile Arg Asp Glu Lys Gly Arg Thr Ala Leu Asp Leu Ala 610 615 620 625	2048
gcc ttt aaa gga cac aca gaa tgt gtg gaa gcg ctt atc aat cag ggc Ala Phe Lys Gly His Thr Glu Cys Val Glu Ala Leu Ile Asn Gln Gly 630 635 640	2096
gca tcc atc ttt gtg aaa gac aat gta acc aaa aga acc cca ctt cat Ala Ser Ile Phe Val Lys Asp Asn Val Thr Lys Arg Thr Pro Leu His 645 650 655	2144
gcc tca gta att aat ggt cac aca ctg tgt tta cgg ctg ttg cta gaa Ala Ser Val Ile Asn Gly His Thr Leu Cys Leu Arg Leu Leu Leu Glu 660 665 670	2192
att gca gac aac ccg gag gcg gtc gat gtg aaa gat gcc aaa gga caa Ile Ala Asp Asn Pro Glu Ala Val Asp Val Lys Asp Ala Lys Gly Gln 675 680 685	2240
aca cca ctg atg ctt gca gta gca tat gga cat att gac gct gtt tca Thr Pro Leu Met Leu Ala Val Ala Tyr Gly His Ile Asp Ala Val Ser 690 695 700 705	2288
ttg tta ctt gaa aag gaa gcc aac gta gac act gtt gac atc cta gga Leu Leu Leu Glu Lys Glu Ala Asn Val Asp Thr Val Asp Ile Leu Gly 710 715 720	2336
tgc aca gct tta cac aga ggg att atg aca gga cac gag gaa tgt gtg Cys Thr Ala Leu His Arg Gly Ile Met Thr Gly His Glu Glu Cys Val 725 730 735	2384

caa atg ctg ctg gaa caa gaa gtg tca att ctc tgt aaa gat tcc aga	2432
Gln Met Leu Leu Glu Gln Glu Val Ser Ile Leu Cys Lys Asp Ser Arg	
740 745 750	
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Gly Arg Thr Pro Leu His Tyr Ala Ala Ala Arg Gly His Ala Thr Trp	
755 760 765	
ctg agc gag ctg ctc caa atg gct ctt tct gag gag gac tgt tgt ttc	2528
Leu Ser Glu Leu Leu Glu Met Ala Leu Ser Glu Glu Asp Cys Cys Phe	
770 775 780 785	
aaa gat aac caa ggc tac acg ccg ctg cac tgg gct tgt tac aat ggt	2576
Lys Asp Asn Gln Gly Tyr Thr Pro Leu His Trp Ala Cys Tyr Asn Gly	
790 795 800	
aat gaa aac tgt ata gag gta ctt ttg gag caa aaa tgt ttt cgc aaa	2624
Asn Glu Asn Cys Ile Glu Val Leu Glu Gln Lys Cys Phe Arg Lys	
805 810 815	
ttt atc ggt aat ccc ttt act cca ctg cac tgt gca ata atc aat gat	2672
Phe Ile Gly Asn Pro Phe Thr Pro Leu His Cys Ala Ile Ile Asn Asp	
820 825 830	
cat ggg aat tgt gca tca ttg ctg ctt ggg gcc ata gat tcc agt atc	2720
His Gly Asn Cys Ala Ser Leu Leu Leu Gly Ala Ile Asp Ser Ser Ile	
835 840 845	
gtc agt tgt aga gat gac aaa ggc agg aca ccc ctt cat gcg gca gca	2768
Val Ser Cys Arg Asp Asp Lys Gly Arg Thr Pro Leu His Ala Ala Ala	
850 855 860 865	
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Phe Ala Asp His Val Glu Cys Leu Gln Leu Leu Leu Arg His Ser Ala	
870 875 880	
cca gtg aac gca gta gat aat tca ggg aaa aca gca ctg atg atg gct	2864
Pro Val Asn Ala Val Asp Asn Ser Gly Lys Thr Ala Leu Met Met Ala	
885 890 895	
gct gag aat ggg cag gca ggc gct gtg gat att ttg gtg aac agt gcc	2912
Ala Glu Asn Gly Gln Ala Gly Ala Val Asp Ile Leu Val Asn Ser Ala	
900 905 910	
cag gct gat ctg act gta aag gat aag gac ttg aat aca ccc tta cat	2960
Gln Ala Asp Leu Thr Val Lys Asp Lys Asp Leu Asn Thr Pro Leu His	
915 920 925	
ttg gct tgt agt aaa ggt cat gaa aaa tgt gcc ttg tta ata ctt gac	3008
Leu Ala Cys Ser Lys Gly His Glu Lys Cys Ala Leu Leu Ile Leu Asp	
930 935 940 945	
aag ata caa gac gag agc ctt att aat gaa aaa aat aat gca ctg cag	3056
Lys Ile Gln Asp Glu Ser Leu Ile Asn Glu Lys Asn Asn Ala Leu Gln	
950 955 960	
aca ccc ctc cac gtc gct gcg cgc aat ggc tta aag gtg gta gtt gag	3104
Thr Pro Leu His Val Ala Ala Arg Asn Gly Leu Lys Val Val Val Glu	
965 970 975	
gag ttg ctg gcc aaa ggg gcc tgt gta ctt gct gta gat gaa aat ggc	3152
Glu Leu Leu Ala Lys Gly Ala Cys Val Leu Ala Val Asp Glu Asn Gly	
980 985 990	

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Cys

agggaaccaat tatgaatcag aatgcacttt atcccagcca cagaacgcaa agggttacac      3265
tctgcaggag ctgcggttgg ggaagggaaa gggagtaacc ggattcgcct tgcctgtctg      3325
tgattgggaa gcacgcaccc tttattttcc aactgggaac aagatactgg aaattcctct      3385
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Asp Val Asn Thr Leu Asp Ser Glu Lys Arg Thr Pro Leu His Val Ala
35          40          45

Ala Phe Leu Gly Asp Ala Glu Ile Ile Glu Leu Leu Ile Leu Ser Gly
50          55          60

Ala Arg Val Asn Ala Lys Asp Asn Met Trp Leu Thr Pro Leu His Arg
65          70          75          80

Ala Val Ala Ser Arg Ser Glu Glu Ala Val Gln Val Leu Ile Lys His
85          90          95

Ser Ala Asp Val Asn Ala Arg Asp Lys Asn Trp Gln Thr Pro Leu His
100         105         110

Val Ala Ala Ala Asn Lys Ala Val Lys Cys Ala Glu Val Ile Ile Pro
115         120         125

Leu Leu Ser Ser Val Asn Val Ser Asp Arg Gly Gly Arg Thr Ala Leu
130         135         140

His His Ala Ala Leu Asn Gly His Val Glu Met Val Asn Leu Leu Leu
145         150         155         160

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Ala Lys Gly Ala Asn Ile Asn Ala Phe Asp Lys Lys Asp Arg Arg Ala
165 170 175

Leu His Trp Ala Ala Tyr Met Gly His Leu Asp Val Val Ala Leu Leu
180 185 190

Ile Asn His Gly Ala Glu Val Thr Cys Lys Asp Lys Lys Gly Tyr Thr
195 200 205

Pro Leu His Ala Ala Ala Ser Asn Gly Gln Ile Asn Val Val Lys His
210 215 220

Leu Leu Asn Leu Gly Val Glu Ile Asp Glu Ile Asn Val Tyr Gly Asn
225 230 235 240

Thr Ala Leu His Ile Ala Cys Tyr Asn Gly Gln Asp Ala Val Val Asn
245 250 255

Glu Leu Ile Asp Tyr Gly Ala Asn Val Asn Gln Pro Asn Asn Asn Gly
260 265 270

Phe Thr Pro Leu His Phe Ala Ala Ala Ser Thr His Gly Ala Leu Cys
275 280 285

Leu Glu Leu Leu Val Asn Asn Gly Ala Asp Val Asn Ile Gln Ser Lys
290 295 300

Asp Gly Lys Ser Pro Leu His Met Thr Ala Val His Gly Arg Phe Thr
305 310 315 320

Arg Ser Gln Thr Leu Ile Gln Asn Gly Gly Glu Ile Asp Cys Val Asp
325 330 335

Lys Asp Gly Asn Thr Pro Leu His Val Ala Ala Arg Tyr Gly His Glu
340 345 350

Leu Leu Ile Asn Thr Leu Ile Thr Ser Gly Ala Asp Thr Ala Lys Cys
355 360 365

Gly Ile His Ser Met Phe Pro Leu His Leu Ala Ala Leu Asn Ala His
370 375 380

Ser Asp Cys Cys Arg Lys Leu Leu Ser Ser Gly Gln Lys Tyr Ser Ile
385 390 395 400

Val Ser Leu Phe Ser Asn Glu His Val Leu Ser Ala Gly Phe Glu Ile
405 410 415

Asp Thr Pro Asp Lys Phe Gly Arg Thr Cys Leu His Ala Ala Ala Ala
420 425 430

Gly Gly Asn Val Glu Cys Ile Lys Leu Leu Gln Ser Ser Gly Ala Asp
435 440 445

Phe His Lys Lys Asp Lys Cys Gly Arg Thr Pro Leu His Tyr Ala Ala
450 455 460

Ala Asn Cys His Phe His Cys Ile Glu Thr Leu Val Thr Thr Gly Ala
465 470 475 480

Asn Val Asn Glu Thr Asp Asp Trp Gly Arg Thr Ala Leu His Tyr Ala
485 490 495

Ala Ala Ser Asp Met Asp Arg Asn Lys Thr Ile Leu Gly Asn Ala His
500 505 510

Asp Asn Ser Glu Glu Leu Glu Arg Ala Arg Glu Leu Lys Glu Lys Glu
515 520 525

Ala Thr Leu Cys Leu Glu Phe Leu Leu Gln Asn Asp Ala Asn Pro Ser
530 535 540

Ile Arg Asp Lys Glu Gly Tyr Asn Ser Ile His Tyr Ala Ala Ala Tyr
545 550 555 560

Gly His Arg Gln Cys Leu Glu Leu Leu Leu Glu Arg Thr Asn Ser Gly
565 570 575

Phe Glu Glu Ser Asp Ser Gly Ala Thr Lys Ser Pro Leu His Leu Ala
580 585 590

Ala Tyr Asn Gly His His Gln Ala Leu Glu Val Leu Leu Gln Ser Leu
595 600 605

Val Asp Leu Asp Ile Arg Asp Glu Lys Gly Arg Thr Ala Leu Asp Leu
610 615 620

Ala Ala Phe Lys Gly His Thr Glu Cys Val Glu Ala Leu Ile Asn Gln
625 630 635 640

Gly Ala Ser Ile Phe Val Lys Asp Asn Val Thr Lys Arg Thr Pro Leu
645 650 655

His Ala Ser Val Ile Asn Gly His Thr Leu Cys Leu Arg Leu Leu Leu
660 665 670

Glu	Ile	Ala	Asp	Asn	Pro	Glu	Ala	Val	Asp	Val	Lys	Asp	Ala	Lys	Gly	675	680	685
Gln	Thr	Pro	Leu	Met	Leu	Ala	Val	Ala	Tyr	Gly	His	Ile	Asp	Ala	Val	690	695	700
Ser	Leu	Leu	Leu	Glu	Lys	Glu	Ala	Asn	Val	Asp	Thr	Val	Asp	Ile	Leu	705	710	715
Gly	Cys	Thr	Ala	Leu	His	Arg	Gly	Ile	Met	Thr	Gly	His	Glu	Glu	Cys	725	730	735
Val	Gln	Met	Leu	Leu	Glu	Gln	Glu	Val	Ser	Ile	Leu	Cys	Lys	Asp	Ser	740	745	750
Arg	Gly	Arg	Thr	Pro	Leu	His	Tyr	Ala	Ala	Ala	Arg	Gly	His	Ala	Thr	755	760	765
Trp	Leu	Ser	Glu	Leu	Leu	Gln	Met	Ala	Leu	Ser	Glu	Glu	Asp	Cys	Cys	770	775	780
Phe	Lys	Asp	Asn	Gln	Gly	Tyr	Thr	Pro	Leu	His	Trp	Ala	Cys	Tyr	Asn	785	790	795
Gly	Asn	Glu	Asn	Cys	Ile	Glu	Val	Leu	Leu	Glu	Gln	Lys	Cys	Phe	Arg	805	810	815
Lys	Phe	Ile	Gly	Asn	Pro	Phe	Thr	Pro	Leu	His	Cys	Ala	Ile	Ile	Asn	820	825	830
Asp	His	Gly	Asn	Cys	Ala	Ser	Leu	Leu	Leu	Gly	Ala	Ile	Asp	Ser	Ser	835	840	845
Ile	Val	Ser	Cys	Arg	Asp	Asp	Lys	Gly	Arg	Thr	Pro	Leu	His	Ala	Ala	850	855	860
Ala	Phe	Ala	Asp	His	Val	Glu	Cys	Leu	Gln	Leu	Leu	Leu	Arg	His	Ser	865	870	875
Ala	Pro	Val	Asn	Ala	Val	Asp	Asn	Ser	Gly	Lys	Thr	Ala	Leu	Met	Met	885	890	895
Ala	Ala	Glu	Asn	Gly	Gln	Ala	Gly	Ala	Val	Asp	Ile	Leu	Val	Asn	Ser	900	905	910
Ala	Gln	Ala	Asp	Leu	Thr	Val	Lys	Asp	Lys	Asp	Leu	Asn	Thr	Pro	Leu	915	920	925

His Leu Ala Cys Ser Lys Gly His Glu Lys Cys Ala Leu Leu Ile Leu
 930 935 940

Asp Lys Ile Gln Asp Glu Ser Leu Ile Asn Glu Lys Asn Asn Ala Leu
 945 950 955 960

Gln Thr Pro Leu His Val Ala Ala Arg Asn Gly Leu Lys Val Val Val
 965 970 975

Glu Glu Leu Leu Ala Lys Gly Ala Cys Val Leu Ala Val Asp Glu Asn
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Gly Cys

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 gatggatgga cctttcatct aagagaaagg aggagacacg ttggcaaadc agcctcaagc 180
 ctaagattgc ttgtgaagca atcataagga ggaacaaaaa cagacacaaa aacagaggga 240
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 Met Ser Leu Lys Leu Pro Arg Asn Trp Asp Phe
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 aac ctg aaa gtg gag gct gcg aaa ata gct cgg tca agg agt gtg atg 399
 Asn Leu Lys Val Glu Ala Ala Lys Ile Ala Arg Ser Arg Ser Val Met
 15 20 25
 act ggc gag cag atg gct gcc ttc cat cca tcg tcc acc ccc aac ccg 447
 Thr Gly Glu Gln Met Ala Ala Phe His Pro Ser Ser Thr Pro Asn Pro
 30 35 40
 ctg gag agg ccc atc aag atg ggc tgg ctg aag aag cag agg tcc atc 495
 Leu Glu Arg Pro Ile Lys Met Gly Trp Leu Lys Lys Gln Arg Ser Ile
 45 50 55
 gtg aag aac tgg cag cag agg tac ttt gtg ctg agg gcg cag cag ctc 543
 Val Lys Asn Trp Gln Gln Arg Tyr Phe Val Leu Arg Ala Gln Gln Leu
 60 65 70 75

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Tyr Tyr Tyr Lys Asp Glu Glu Asp Thr Lys Pro Gln Gly Cys Met Tyr	
80 85 90	
cta cca gga tgt aca atc aag gag atc gcc aca aac cca gaa gaa gct	639
Leu Pro Gly Cys Thr Ile Lys Glu Ile Ala Thr Asn Pro Glu Glu Ala	
95 100 105	
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Gly Lys Phe Val Phe Glu Ile Ile Pro Ala Ser Trp Asp Gln Asn Arg	
110 115 120	
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Met Gly Gln Asp Ser Tyr Val Leu Met Ala Ser Ser Gln Ala Glu Met	
125 130 135	
gag gag tgg gtt aaa ttc ctc agg aga gtt gct ggc aca ccc tgt gga	783
Glu Glu Trp Val Lys Phe Leu Arg Arg Val Ala Gly Thr Pro Cys Gly	
140 145 150 155	
gtg ttt ggc cag cgc ttg gat gag act gtg gcc tat gaa cag aaa ttc	831
Val Phe Gly Gln Arg Leu Asp Glu Thr Val Ala Tyr Glu Gln Lys Phe	
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ggc ccc cat ctg gtg ccc atc ctg gtg gag aaa tgt gca gag ttc atc	879
Gly Pro His Leu Val Pro Ile Leu Val Glu Lys Cys Ala Glu Phe Ile	
175 180 185	
ctg gag cac ggc cgg aat gaa gag ggc atc ttc cgt ctg cct ggg cag	927
Leu Glu His Gly Arg Asn Glu Glu Gly Ile Phe Arg Leu Pro Gly Gln	
190 195 200	
gac aac ctg gtg aag cag ctg aga gac gct ttt gat gct ggg gag cgg	975
Asp Asn Leu Val Lys Gln Leu Arg Asp Ala Phe Asp Ala Gly Glu Arg	
205 210 215	
ccc tcc ttt gac aga gac aca gat gtg cac act gtg gct tcc ctg tta	1023
Pro Ser Phe Asp Arg Asp Thr Asp Val His Thr Val Ala Ser Leu Leu	
220 225 230 235	
aag ctc tac ctc cga gac ctc cca gag ccc gtg gtt ccc tgg agc cag	1071
Lys Leu Tyr Leu Arg Asp Leu Pro Glu Pro Val Val Pro Trp Ser Gln	
240 245 250	
tac gaa ggg ttc ctg ctc tgt ggg cag ctc acg aat gcg gat gag gca	1119
Tyr Glu Gly Phe Leu Leu Cys Gly Gln Leu Thr Asn Ala Asp Glu Ala	
255 260 265	
aag gct cag cag gag ttg atg aag cag ctc tcc atc ctt cct cgt gac	1167
Lys Ala Gln Gln Glu Leu Met Lys Gln Leu Ser Ile Leu Pro Arg Asp	
270 275 280	
aac tat agt ctc ctg agc tac atc tgc agg ttc cta cat gaa ata cag	1215
Asn Tyr Ser Leu Leu Ser Tyr Ile Cys Arg Phe Leu His Glu Ile Gln	
285 290 295	
ctg aac tgt gct gtt aac aag atg agt gtg gac aac ctg gct act gtg	1263
Leu Asn Cys Ala Val Asn Lys Met Ser Val Asp Asn Leu Ala Thr Val	
300 305 310 315	
att ggt gtg aat ctc atc agg tcg aag gtc gaa gac cct gcc gtg atc	1311
Ile Gly Val Asn Leu Ile Arg Ser Lys Val Glu Asp Pro Ala Val Ile	
320 325 330	

atg aga ggg act cct cag atc caa aga gtg atg act atg atg atc aga Met Arg Gly Thr Pro Gln Ile Gln Arg Val Met Thr Met Met Ile Arg 335 340 345	1359
gac cat gaa gtc ctc ttc ccc aag tcc aag gat ata ccc ctg tca ccc Asp His Glu Val Leu Phe Pro Lys Ser Lys Asp Ile Pro Leu Ser Pro 350 355 360	1407
cct gcc cag aaa aat gac ccc aag aaa gct cca gtg gcc cga agc tct Pro Ala Gln Lys Asn Asp Pro Lys Lys Ala Pro Val Ala Arg Ser Ser 365 370 375	1455
gta ggc tgg gat gcc act gaa gac ctc cga att tct agg aca gac agc Val Gly Trp Asp Ala Thr Glu Asp Leu Arg Ile Ser Arg Thr Asp Ser 380 385 390 395	1503
ttc agt agc atg aca agc gac tct gat aca acc agc ccc acc gga cag Phe Ser Ser Met Thr Ser Asp Ser Asp Thr Thr Ser Pro Thr Gly Gln 400 405 410	1551
cag ccg agc gat gcg ttt ccg gag gac agc agc aaa gta ccc agg gaa Gln Pro Ser Asp Ala Phe Pro Glu Asp Ser Ser Lys Val Pro Arg Glu 415 420 425	1599
aag cca gga gac tgg aaa atg caa tct cgt aaa agg act caa aca ctc Lys Pro Gly Asp Trp Lys Met Gln Ser Arg Lys Arg Thr Gln Thr Leu 430 435 440	1647
cct aac cgg aaa tgt ttc ttg aca tca gct ttt cag ggt gcc aac agc Pro Asn Arg Lys Cys Phe Leu Thr Ser Ala Phe Gln Gly Ala Asn Ser 445 450 455	1695
agc aaa atg gag atc ttt aaa aat gaa ttc tgg tcg cct tcc tca gag Ser Lys Met Glu Ile Phe Lys Asn Glu Phe Trp Ser Pro Ser Ser Glu 460 465 470 475	1743
gct aag gca ggg gaa ggg cac agg aga acg atg tct caa gac ttg cgc Ala Lys Ala Gly Glu Gly His Arg Arg Thr Met Ser Gln Asp Leu Arg 480 485 490	1791
caa ctt tct gac tcc caa cgg act tcc acc tac gat aac gtc cct tcc Gln Leu Ser Asp Ser Gln Arg Thr Ser Thr Tyr Asp Asn Val Pro Ser 495 500 505	1839
ctg cca ggg tcc cct ggg gag gaa gcc agt gca ctc tct tcc caa gcc Leu Pro Gly Ser Pro Gly Glu Glu Ala Ser Ala Leu Ser Ser Gln Ala 510 515 520	1887
tgt gac tcc aag gga gat act ctt gcc agt cca aac tct gaa act ggg Cys Asp Ser Lys Gly Asp Thr Leu Ala Ser Pro Asn Ser Glu Thr Gly 525 530 535	1935
cct gga aaa aag aac tct gga gaa gag gaa att gat tct ttg cag agg Pro Gly Lys Lys Asn Ser Gly Glu Glu Glu Ile Asp Ser Leu Gln Arg 540 545 550 555	1983
atg gtc caa gag cta cga aag gaa ata gaa aca cag aag caa atg tat Met Val Gln Glu Leu Arg Lys Glu Ile Glu Thr Gln Lys Gln Met Tyr 560 565 570	2031
gag gaa cag att aaa aac ctt gag aag gaa aat tat gac gtt tgg gct Glu Glu Gln Ile Lys Asn Leu Glu Lys Glu Asn Tyr Asp Val Trp Ala 575 580 585	2079

aaa gtg gtg agg ctc aat gaa gaa ctg gag aag gaa aag aag aag tct	2127
Lys Val Val Arg Leu Asn Glu Glu Leu Glu Lys Glu Lys Lys Lys Ser	
590 595 600	
gca gcc cta gag atc agc ctc cgc aac atg gag cgc tcc cgg gag gat	2175
Ala Ala Leu Glu Ile Ser Leu Arg Asn Met Glu Arg Ser Arg Glu Asp	
605 610 615	
gtt gag aag agg aac aag gcc ttg gaa gaa gaa gtc aag gaa ttt gtc	2223
Val Glu Lys Arg Asn Lys Ala Leu Glu Glu Glu Val Lys Glu Phe Val	
620 625 630 635	
aaa tcc atg aag gaa ccc aag acc gag gct taagggtccc aggagtactg	2273
Lys Ser Met Lys Glu Pro Lys Thr Glu Ala	
640 645	
cagggacagc cccagagagg cccaactctg gcccctttct cagtgcctatc tgatgacggg	2333
gaaacaaaat tattctctga gagggaaagg acatttgagg gaaacatcaa atttcccat	2393
aaataaatga atggagtttg caggaagggtg agggtgagca gagatgtgtg tggacatctc	2453
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aaagcaaaaat tt	2885

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 <212> PRT
 <213> Homo sapiens

 <400> 40

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Ala Ala Phe His Pro Ser Ser Thr Pro Asn Pro Leu Glu Arg Pro Ile	
35 40 45	
Lys Met Gly Trp Leu Lys Lys Gln Arg Ser Ile Val Lys Asn Trp Gln	
50 55 60	
Gln Arg Tyr Phe Val Leu Arg Ala Gln Gln Leu Tyr Tyr Tyr Lys Asp	
65 70 75 80	

Glu Glu Asp Thr Lys Pro Gln Gly Cys Met Tyr Leu Pro Gly Cys Thr
85 90 95

Ile Lys Glu Ile Ala Thr Asn Pro Glu Glu Ala Gly Lys Phe Val Phe
100 105 110

Glu Ile Ile Pro Ala Ser Trp Asp Gln Asn Arg Met Gly Gln Asp Ser
115 120 125

Tyr Val Leu Met Ala Ser Ser Gln Ala Glu Met Glu Glu Trp Val Lys
130 135 140

Phe Leu Arg Arg Val Ala Gly Thr Pro Cys Gly Val Phe Gly Gln Arg
145 150 155 160

Leu Asp Glu Thr Val Ala Tyr Glu Gln Lys Phe Gly Pro His Leu Val
165 170 175

Pro Ile Leu Val Glu Lys Cys Ala Glu Phe Ile Leu Glu His Gly Arg
180 185 190

Asn Glu Glu Gly Ile Phe Arg Leu Pro Gly Gln Asp Asn Leu Val Lys
195 200 205

Gln Leu Arg Asp Ala Phe Asp Ala Gly Glu Arg Pro Ser Phe Asp Arg
210 215 220

Asp Thr Asp Val His Thr Val Ala Ser Leu Leu Lys Leu Tyr Leu Arg
225 230 235 240

Asp Leu Pro Glu Pro Val Val Pro Trp Ser Gln Tyr Glu Gly Phe Leu
245 250 255

Leu Cys Gly Gln Leu Thr Asn Ala Asp Glu Ala Lys Ala Gln Gln Glu
260 265 270

Leu Met Lys Gln Leu Ser Ile Leu Pro Arg Asp Asn Tyr Ser Leu Leu
275 280 285

Ser Tyr Ile Cys Arg Phe Leu His Glu Ile Gln Leu Asn Cys Ala Val
290 295 300

Asn Lys Met Ser Val Asp Asn Leu Ala Thr Val Ile Gly Val Asn Leu
305 310 315 320

Ile Arg Ser Lys Val Glu Asp Pro Ala Val Ile Met Arg Gly Thr Pro
325 330 335

Gln Ile Gln Arg Val Met Thr Met Met Ile Arg Asp His Glu Val Leu
340 345 350

Phe Pro Lys Ser Lys Asp Ile Pro Leu Ser Pro Pro Ala Gln Lys Asn
355 360 365

Asp Pro Lys Lys Ala Pro Val Ala Arg Ser Ser Val Gly Trp Asp Ala
370 375 380

Thr Glu Asp Leu Arg Ile Ser Arg Thr Asp Ser Phe Ser Ser Met Thr
385 390 395 400

Ser Asp Ser Asp Thr Thr Ser Pro Thr Gly Gln Gln Pro Ser Asp Ala
405 410 415

Phe Pro Glu Asp Ser Ser Lys Val Pro Arg Glu Lys Pro Gly Asp Trp
420 425 430

Lys Met Gln Ser Arg Lys Arg Thr Gln Thr Leu Pro Asn Arg Lys Cys
435 440 445

Phe Leu Thr Ser Ala Phe Gln Gly Ala Asn Ser Ser Lys Met Glu Ile
450 455 460

Phe Lys Asn Glu Phe Trp Ser Pro Ser Ser Glu Ala Lys Ala Gly Glu
465 470 475 480

Gly His Arg Arg Thr Met Ser Gln Asp Leu Arg Gln Leu Ser Asp Ser
485 490 495

Gln Arg Thr Ser Thr Tyr Asp Asn Val Pro Ser Leu Pro Gly Ser Pro
500 505 510

Gly Glu Glu Ala Ser Ala Leu Ser Ser Gln Ala Cys Asp Ser Lys Gly
515 520 525

Asp Thr Leu Ala Ser Pro Asn Ser Glu Thr Gly Pro Gly Lys Lys Asn
530 535 540

Ser Gly Glu Glu Glu Ile Asp Ser Leu Gln Arg Met Val Gln Glu Leu
545 550 555 560

Arg Lys Glu Ile Glu Thr Gln Lys Gln Met Tyr Glu Glu Gln Ile Lys
565 570 575

Asn Leu Glu Lys Glu Asn Tyr Asp Val Trp Ala Lys Val Val Arg Leu
580 585 590

Asn Glu Glu Leu Glu Lys Glu Lys Lys Lys Ser Ala Ala Leu Glu Ile
 595 600 605

Ser Leu Arg Asn Met Glu Arg Ser Arg Glu Asp Val Glu Lys Arg Asn
 610 615 620

Lys Ala Leu Glu Glu Glu Val Lys Glu Phe Val Lys Ser Met Lys Glu
 625 630 635 640

Pro Lys Thr Glu Ala
 645

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 ccctgc atg cat cag acc tac agc aga cat tgc agg cct gaa gaa agc 108
 Met His Gln Thr Tyr Ser Arg His Cys Arg Pro Glu Glu Ser
 1 5 10
 acc ttt tct gct gcc atg aca acc atg caa gga atg gaa cag gcc atg 156
 Thr Phe Ser Ala Ala Met Thr Thr Met Gln Gly Met Glu Gln Ala Met
 15 20 25 30
 cca ggg gct ggc cct ggt gtg ccc cag ctg gga aac atg gct gtc ata 204
 Pro Gly Ala Gly Pro Gly Val Pro Gln Leu Gly Asn Met Ala Val Ile
 35 40 45
 cat tca cat ctg tgg aaa gga ttg caa gag aag ttc ttg aag gga gaa 252
 His Ser His Leu Trp Lys Gly Leu Gln Glu Lys Phe Leu Lys Gly Glu
 50 55 60
 ccc aaa gtc ctt ggg gtt gtg cag att ctg act gcc ctg atg agc ctt 300
 Pro Lys Val Leu Gly Val Val Gln Ile Leu Thr Ala Leu Met Ser Leu
 65 70 75
 agc atg gga ata aca atg atg tgt atg gca tct aat act tat gga agt 348
 Ser Met Gly Ile Thr Met Met Cys Met Ala Ser Asn Thr Tyr Gly Ser
 80 85 90
 aac cct att tcc gtg tat atc ggg tac aca att tgg ggg tca gta atg 396
 Asn Pro Ile Ser Val Tyr Ile Gly Tyr Thr Ile Trp Gly Ser Val Met
 95 100 105 110
 ttt att att tca gga tcc ttg tca att gca gca gga att aga act aca 444
 Phe Ile Ile Ser Gly Ser Leu Ser Ile Ala Ala Gly Ile Arg Thr Thr
 115 120 125

aaa ggc ctg ggt ctg gat ggc atg gtg ctc ctc tta agt gtg ctg gaa	492
Lys Gly Leu Gly Leu Asp Gly Met Val Leu Leu Leu Ser Val Leu Glu	
130 135 140	
ttc tgc att gct gtg tcc ctc tct gcc ttt gga tgt aaa gtg ctc tgt	540
Phe Cys Ile Ala Val Ser Leu Ser Ala Phe Gly Cys Lys Val Leu Cys	
143 150 155	
tgt acc cct ggt ggg gtt gtg tta att ctg cca tca cat tct cac atg	588
Cys Thr Pro Gly Gly Val Val Leu Ile Leu Pro Ser His Ser His Met	
160 165 170	
gca gaa aca gca tct ccc aca cca ctt aat gag gtt tgaggccacc	634
Ala Glu Thr Ala Ser Pro Thr Pro Leu Asn Glu Val	
175 180 185	
aaaagatcaa cagacaaatg ctccagaaat ctatgctgac tgtgacacaa gagcctcaca	694
tgagaaatta ccagtatcca acttcgatac tgatagactt gttgatatta ttattatatg	754
taatccaatt atgaactgtg tgtgtataga gagataataa attcaaaatt atgtttctcat	814
ttttttccct ggaactcaat aactcatttc actggctctt tatcgagagt actagaagtt	874
aaattaataa ataatgcatt taatgaggca acagcacttg aaagtttttc attcatcata	934
agaactttat ataaaggcat tacattggca aataaggttt ggaagcagaa gagcaaaaaa	994
aagatattgt taaaatgagg cctccatgca aaacacatac ttccctcca tttatttaac	1054
tttttttttc tctacctat ggggaccaaa gtgctttttc cttcaggaag tggagatgca	1114
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gaagtagcac agcccgctct tgcattgtgca cgagctatca tttgagtaaa agtatacatg	1234
gagtaaaaat catattaagc atcagattca acttatattt tctatttcat cttcttcctt	1294
tcccttctcc caccttctac tgggcataat tatatcttaa tcatatatgg aaatgtgcaa	1354
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agc	1417

<210> 42
 <211> 186
 <212> PRT
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<400> 42

Met His Gln Thr Tyr Ser Arg His Cys Arg Pro Glu Glu Ser Thr Phe
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Ser Ala Ala Met Thr Thr Met Gln Gly Met Glu Gln Ala Met Pro Gly
20 25 30

Ala Gly Pro Gly Val Pro Gln Leu Gly Asn Met Ala Val Ile His Ser
35 40 45

His Leu Trp Lys Gly Leu Gln Glu Lys Phe Leu Lys Gly Glu Pro Lys
 50 55 60
 Val Leu Gly Val Val Gln Ile Leu Thr Ala Leu Met Ser Leu Ser Met
 65 70 75 80
 Gly Ile Thr Met Met Cys Met Ala Ser Asn Thr Tyr Gly Ser Asn Pro
 85 90 95
 Ile Ser Val Tyr Ile Gly Tyr Thr Ile Trp Gly Ser Val Met Phe Ile
 100 105 110
 Ile Ser Gly Ser Leu Ser Ile Ala Ala Gly Ile Arg Thr Thr Lys Gly
 115 120 125
 Leu Gly Leu Asp Gly Met Val Leu Leu Leu Ser Val Leu Glu Phe Cys
 130 135 140
 Ile Ala Val Ser Leu Ser Ala Phe Gly Cys Lys Val Leu Cys Cys Thr
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 Pro Gly Gly Val Val Leu Ile Leu Pro Ser His Ser His Met Ala Glu
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 Thr Ala Ser Pro Thr Pro Leu Asn Glu Val
 180 185

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 cgcccctaca cccacagaca gcatcgca ca gaattat ttt aaaaaaaagc agtgatccaa 180
 gcaattgaat tggaagcact ctggggaaac ctgctgttta ttgtggaaat catcttcgat 240
 cttggaattg aaagtaaagc tggaaaggaa ttacaaaca agaaaaaaaa gaagtttggg 300
 atcggattca caggatctgg gcttggaa atg cct cag cct agt gta agc gga 352
 Met Pro Gln Pro Ser Val Ser Gly
 1 5
 atg gat ccg cct ttc ggg gat gcc ttt cga agc cac acc ttt tcg gaa 400
 Met Asp Pro Pro Phe Gly Asp Ala Phe Arg Ser His Thr Phe Ser Glu

10	15	20	
caa act ctg atg agc Gln Thr Leu Met Ser 25	aca gat ctc tta Thr Asp Leu Leu 30	gca aac agt tcg gat cca gat Ala Asn Ser Ser Asp Pro Asp 35 40	448
ttc atg tat gaa ctg Phe Met Tyr Glu Leu 45	gat aga gag atg Asp Arg Glu Met 50	aac tac caa cag aat cct aga Asn Tyr Gln Gln Asn Pro Arg 55	496
gac aac ttt ctt tct Asp Asn Phe Leu Ser 60	ttg gag gac tgc Leu Glu Asp Cys 65	aaa gac att gaa aat ctg gag Lys Asp Ile Glu Asn Leu Glu 70	544
tct ttc aca gat gtc Ser Phe Thr Asp Val 75	ctg gat aat gag Leu Asp Asn Glu 80	ggt gct tta acc tca aac tgg Gly Ala Leu Thr Ser Asn Trp 85	592
gaa cag tgg gat aca Glu Gln Trp Asp Thr 90	tac tgt gaa gac cta Tyr Cys Glu Asp Leu 95	acg aaa tat acc aaa cta Thr Lys Tyr Thr Lys Leu 100	640
acc agc tgt gac atc Thr Ser Cys Asp Ile 105	tgg gga aca aaa Trp Gly Thr Lys 110	gaa gtg gat tac ttg ggt ctt Glu Val Asp Tyr Leu Gly Leu 115 120	688
gat gac ttt tct agt Asp Asp Phe Ser Ser 125	cct tac caa gat Pro Tyr Gln Asp 130	gaa gag gtt ata agt aaa act Glu Glu Val Ile Ser Lys Thr 135	736
cca act tta gct caa Pro Thr Leu Ala Gln 140	ctt aat agt gag Leu Asn Ser Glu 145	gac tca cag tct gtt tct gat Asp Ser Gln Ser Val Ser Asp 150	784
tcc ctt tat tac ccc Ser Leu Tyr Tyr Pro 155	gat tca ctt ttc Asp Ser Leu Phe 160	agt gtc aaa caa aat ccc tta Ser Val Lys Gln Asn Pro Leu 165	832
ccc tct tca ttc cct Pro Ser Ser Phe Pro 170	ggt aaa aag atc Gly Lys Lys Ile 175	aca agc aga gca gct gct cct Thr Ser Arg Ala Ala Ala Pro 180	880
gtg tgt tct tct aag Val Cys Ser Ser Lys 185	act ctg cag gct Thr Leu Gln Ala 190	gag gtc cct ttg tca gac tgt Glu Val Pro Leu Ser Asp Cys 195 200	928
gtc caa aaa gca agt Val Gln Lys Ala Ser 205	aaa ccc cct tca Lys Pro Pro Ser 210	agc aca caa atc atg gtg aag Ser Thr Gln Ile Met Val Lys 215	976
acc aac atg tat cat Thr Asn Met Tyr His 220	aat gaa aag gtg Asn Glu Lys Val 225	aac ttt cat gtt gaa tgt aaa Asn Phe His Val Glu Cys Lys 230	1024
gac tat gta aaa aag Asp Tyr Val Lys Lys 235	gca aag gta aag Ala Lys Val Lys 240	atc aac cca gtg caa cag agc Ile Asn Pro Val Gln Gln Ser 245	1072
agg ccc ttg ttg agc Arg Pro Leu Leu Ser 250	cag att cac aca Gln Ile His Thr 255	gat gca gca aag gag aac acc Asp Ala Ala Lys Glu Asn Thr 260	1120
tgc tac tgt ggt gca Cys Tyr Cys Gly Ala Val	gtg gca aag aga Val Ala Lys Arg Gln	gag aaa aaa ggg atg gag Glu Lys Lys Gly Met Glu	1168

265	270	275	280	
cat ctt caa ggt cat gcc act ccc gct ttg cct ttt aaa gaa acc cag Pro Leu Gln Gly His Ala Thr Pro Ala Leu Pro Phe Lys Glu Thr Gln 285 290 295				1216
gaa cta tta cta agt ccc ctg ccc cag gaa ggt cct ggg tca ctt gca Glu Leu Leu Leu Ser Pro Leu Pro Gln Glu Gly Pro Gly Ser Leu Ala 300 305 310				1264
gca gga gag agc agc agt ctt tct gcc agt aca tca gtc tca gat tca Ala Gly Glu Ser Ser Ser Leu Ser Ala Ser Thr Ser Val Ser Asp Ser 315 320 325				1312
tcc cag aaa aaa gaa gag cac aat tat tct ctt ttt gtc tcc gac aac Ser Gln Lys Lys Glu Glu His Asn Tyr Ser Leu Phe Val Ser Asp Asn 330 335 340				1360
ttg ggt gaa cag cca act aaa tgc agt cct gaa gaa gat gag gag gac Leu Gly Glu Gln Pro Thr Lys Cys Ser Pro Glu Glu Asp Glu Glu Asp 345 350 355 360				1408
gag gag gat gtt gat gat gag gac cat gat gaa gga ttc ggc agt gag Glu Glu Asp Val Asp Asp Glu Asp His Asp Glu Gly Phe Gly Ser Glu 365 370 375				1456
cat gaa ctg tct gaa aat gag gag gag gaa gaa gag gaa gag gat tat His Glu Leu Ser Glu Asn Glu Glu Glu Glu Glu Glu Glu Glu Asp Tyr 380 385 390				1504
gaa gat gac aag gat gat gat att agt gat act ttc tct gaa cca ggc Glu Asp Asp Lys Asp Asp Asp Ile Ser Asp Thr Phe Ser Glu Pro Gly 395 400 405				1552
tat gaa aat gat tct gta gaa gac ctg aag gag gtg act tca ata tct Tyr Glu Asn Asp Ser Val Glu Asp Leu Lys Glu Val Thr Ser Ile Ser 410 415 420				1600
tca cgg aag aga ggt aaa aga aga tac ttc tgg gag tat agt gaa caa Ser Arg Lys Arg Gly Lys Arg Arg Tyr Phe Trp Glu Tyr Ser Glu Gln 425 430 435 440				1648
ctt aca cca tca cag caa gag agg atg ctg aga cca tct gag tgg aac Leu Thr Pro Ser Gln Gln Glu Arg Met Leu Arg Pro Ser Glu Trp Asn 445 450 455				1696
cga gat act ttg cca agt aat atg tat cag aaa aat ggc tta cat cat Arg Asp Thr Leu Pro Ser Asn Met Tyr Gln Lys Asn Gly Leu His His 460 465 470				1744
gga aaa tat gca gta aag aag tca cgg aga act gat gta gaa gac ctg Gly Lys Tyr Ala Val Lys Lys Ser Arg Arg Thr Asp Val Glu Asp Leu 475 480 485				1792
act cca aat cct aaa aaa ctc ctc cag ata ggc aat gaa ctt cgg aaa Thr Pro Asn Pro Lys Lys Leu Leu Gln Ile Gly Asn Glu Leu Arg Lys 490 495 500				1840
ctg aat aag gtg att agt gac ctg act cca gtc agt gag ctt ccc tta Leu Asn Lys Val Ile Ser Asp Leu Thr Pro Val Ser Glu Leu Pro Leu 505 510 515 520				1888
aca gcc cga cca agg tca agg aag gaa aaa aat aag ctg gct ttc aga Thr Ala Arg Pro Arg Ser Arg Lys Glu Lys Asn Lys Leu Ala Phe Arg 525 530 535 540				1936

525								530				535				
gct tgt cgg tta aag aag aaa gcc cag tat gaa gct aat aaa gtg aaa	1984															
Ala Cys Arg Leu Lys Lys Lys Ala Gln Tyr Glu Ala Asn Lys Val Lys																
540 545 550																
tta tgg ggc ctc aac aca gaa tat gat aat tta ttg ttt gta atc aac	2032															
Leu Trp Gly Leu Asn Thr Glu Tyr Asp Asn Leu Leu Phe Val Ile Asn																
555 560 565																
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Ser Ile Lys Gln Glu Ile Val Asn Arg Val Gln Asn Pro Arg Asp Glu																
570 575 580																
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Arg Gly Pro Asn Met Gly Gln Lys Leu Glu Ile Leu Ile Lys Asp Thr																
585 590 595 600																
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Leu Gly Leu Pro Val Ala Gly Gln Thr Ser Glu Phe Val Asn Gln Val																
605 610 615																
tta gag aag act gca gaa ggg aat ccc act gga ggc ctt gta gga tta	2224															
Leu Glu Lys Thr Ala Glu Gly Asn Pro Thr Gly Gly Leu Val Gly Leu																
620 625 630																
agg ata cca aca tca aag gtg taatcagcct cattggacca ctggtcagaa	2275															
Arg Ile Pro Thr Ser Lys Val																
635																
atgtctgcgt tttgtcacgt tatccattgt aaattttcat tctgttttgc atgtcagtta	2335															
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tgatatggca aactgccagt ctaagtaaag ttttgcacag cttacatgat actgtatgaa	3235															
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Leu	Ala	Asn	Ser	Ser	Asp	Pro	Asp	Phe	Met	Tyr	Glu	Leu	Asp	Arg	Glu
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Met	Asn	Tyr	Gln	Gln	Asn	Pro	Arg	Asp	Asn	Phe	Leu	Ser	Leu	Glu	Asp
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Cys	Lys	Asp	Ile	Glu	Asn	Leu	Glu	Ser	Phe	Thr	Asp	Val	Leu	Asp	Asn
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Glu	Gly	Ala	Leu	Thr	Ser	Asn	Trp	Glu	Gln	Trp	Asp	Thr	Tyr	Cys	Glu
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Asp	Leu	Thr	Lys	Tyr	Thr	Lys	Leu	Thr	Ser	Cys	Asp	Ile	Trp	Gly	Thr
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Lys	Glu	Val	Asp	Tyr	Leu	Gly	Leu	Asp	Asp	Phe	Ser	Ser	Pro	Tyr	Gln
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Asp	Glu	Glu	Val	Ile	Ser	Lys	Thr	Pro	Thr	Leu	Ala	Gln	Leu	Asn	Ser
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Glu	Asp	Ser	Gln	Ser	Val	Ser	Asp	Ser	Leu	Tyr	Tyr	Pro	Asp	Ser	Leu
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Phe	Ser	Val	Lys	Gln	Asn	Pro	Leu	Pro	Ser	Ser	Phe	Pro	Gly	Lys	Lys
				165					170					175	

Ile	Thr	Ser	Arg	Ala	Ala	Ala	Pro	Val	Cys	Ser	Ser	Lys	Thr	Leu	Gln
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Ala Glu Val Pro Leu Ser Asp Cys Val Gln Lys Ala Ser Lys Pro Pro
195 200 205

Ser Ser Thr Gln Ile Met Val Lys Thr Asn Met Tyr His Asn Glu Lys
210 215 220

Val Asn Phe His Val Glu Cys Lys Asp Tyr Val Lys Lys Ala Lys Val
225 230 235 240

Lys Ile Asn Pro Val Gln Gln Ser Arg Pro Leu Leu Ser Gln Ile His
245 250 255

Thr Asp Ala Ala Lys Glu Asn Thr Cys Tyr Cys Gly Ala Val Ala Lys
260 265 270

Arg Gln Glu Lys Lys Gly Met Glu Pro Leu Gln Gly His Ala Thr Pro
275 280 285

Ala Leu Pro Phe Lys Glu Thr Gln Glu Leu Leu Leu Ser Pro Leu Pro
290 295 300

Gln Glu Gly Pro Gly Ser Leu Ala Ala Gly Glu Ser Ser Ser Leu Ser
305 310 315 320

Ala Ser Thr Ser Val Ser Asp Ser Ser Gln Lys Lys Glu Glu His Asn
325 330 335

Tyr Ser Leu Phe Val Ser Asp Asn Leu Gly Glu Gln Pro Thr Lys Cys
340 345 350

Ser Pro Glu Glu Asp Glu Glu Asp Glu Glu Asp Val Asp Asp Glu Asp
355 360 365

His Asp Glu Gly Phe Gly Ser Glu His Glu Leu Ser Glu Asn Glu Glu
370 375 380

Glu Glu Glu Glu Glu Glu Asp Tyr Glu Asp Asp Lys Asp Asp Asp Ile
385 390 395 400

Ser Asp Thr Phe Ser Glu Pro Gly Tyr Glu Asn Asp Ser Val Glu Asp
405 410 415

Leu Lys Glu Val Thr Ser Ile Ser Ser Arg Lys Arg Gly Lys Arg Arg
420 425 430

Tyr Phe Trp Glu Tyr Ser Glu Gln Leu Thr Pro Ser Gln Gln Glu Arg
435 440 445

Met Leu Arg Pro Ser Glu Trp Asn Arg Asp Thr Leu Pro Ser Asn Met
 450 455 460

Tyr Gln Lys Asn Gly Leu His His Gly Lys Tyr Ala Val Lys Lys Ser
 465 470 475 480

Arg Arg Thr Asp Val Glu Asp Leu Thr Pro Asn Pro Lys Lys Leu Leu
 485 490 495

Gln Ile Gly Asn Glu Leu Arg Lys Leu Asn Lys Val Ile Ser Asp Leu
 500 505 510

Thr Pro Val Ser Glu Leu Pro Leu Thr Ala Arg Pro Arg Ser Arg Lys
 515 520 525

Glu Lys Asn Lys Leu Ala Phe Arg Ala Cys Arg Leu Lys Lys Lys Ala
 530 535 540

Gln Tyr Glu Ala Asn Lys Val Lys Leu Trp Gly Leu Asn Thr Glu Tyr
 545 550 555 560

Asp Asn Leu Leu Phe Val Ile Asn Ser Ile Lys Gln Glu Ile Val Asn
 565 570 575

Arg Val Gln Asn Pro Arg Asp Glu Arg Gly Pro Asn Met Gly Gln Lys
 580 585 590

Leu Glu Ile Leu Ile Lys Asp Thr Leu Gly Leu Pro Val Ala Gly Gln
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Pro Thr Gly Gly Leu Val Gly Leu Arg Ile Pro Thr Ser Lys Val
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cccgtagcgag cctgctggag gaggaagaga aaggcagaga gagtcggggtt acaagatggc	180
ggatctgtag tagttaccgc ggcgggcgga gagcaagcga gccctggggg gcaaagagac	240
gggagagtgg gtgtatgcgc gggatgaagtg agaggtaacg gggcctccgg gcggagaggc	300
ctcagtggct cttgtcaccg cttctcgcgg ctgaaccttt ggagccatgg tgaattcggg	360
cctctccgaa gccgcccgcg ccgccaccgc cactactgcc tttaccgtct cctaagagtg	420
aggagcgcg acgaggtgaag cgaggaggcg gcggctagag cggtggagac agcagccacc	480
atg tcg gat acg cgg cgg cga gtg aag gtc tat acc ctg aac gaa gac	528
Met Ser Asp Thr Arg Arg Arg Val Lys Val Tyr Thr Leu Asn Glu Asp	
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Arg Gln Trp Asp Asp Arg Gly Thr Gly His Val Ser Ser Thr Tyr Val	
20 25 30	
gag gag ctc aag ggg atg tcg ctg ctg gtt cgg gca gag tcc gac gga	624
Glu Glu Leu Lys Gly Met Ser Leu Leu Val Arg Ala Glu Ser Asp Gly	
35 40 45	
tca cta ctc ttg gaa tca aag ata aat cca aat act gca tat cag aaa	672
Ser Leu Leu Leu Glu Ser Lys Ile Asn Pro Asn Thr Ala Tyr Gln Lys	
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caa cag gat aca tta att gtt tgg tca gaa gca gag aac tat gat ttg	720
Gln Gln Asp Thr Leu Ile Val Trp Ser Glu Ala Glu Asn Tyr Asp Leu	
65 70 75 80	
gct ctg agt ttt cag gag aaa gct ggc tgt gat gag atc tgg gaa aaa	768
Ala Leu Ser Phe Gln Glu Lys Ala Gly Cys Asp Glu Ile Trp Glu Lys	
85 90 95	
att tgt cag gaa gat gag aag ttt ttg tct gaa gtt ttt gca caa tta	816
Ile Cys Gln Glu Asp Glu Lys Phe Leu Ser Glu Val Phe Ala Gln Leu	
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Thr Asp Glu Ala Thr Asp Asp Asp Lys Arg Arg Glu Leu Val Asn Phe	
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Phe Lys Glu Phe Cys Ala Phe Ser Gln Thr Leu Gln Pro Gln Asn Arg	
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Asp Ala Phe Phe Lys Thr Leu Ala Lys Leu Gly Ile Leu Pro Ala Leu	
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Glu Xaa Val Met Gly Met Asp Asp Leu Gln Val Arg Ser Ala Ala Thr	
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Asp Ile Phe Ser Tyr Leu Val Glu Phe Ser Pro Ser Met Val Arg Glu	
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Phe Val Met Gln Glu Ala Gln Gln Ser Asp Asp Asp Ile Leu Leu Ile	

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Asn	Met	Leu	Ala	Thr	Thr	Asn	Lys	Thr	Glu	Lys	Ser	Glu	Phe	Leu	Asn	
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Phe	Phe	Tyr	Asn	His	Cys	Met	His	Val	Leu	Thr	Ala	Pro	Leu	Leu	Thr	
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Asn	Thr	Ser	Glu	Asp	Lys	Cys	Glu	Lys	Asp	Phe	Phe	Leu	Lys	His	Tyr	
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Arg	Tyr	Ser	Trp	Ser	Phe	Ile	Cys	Thr	Pro	Ser	His	Ser	His	Ser	His	
	290					295					300					
tct	acc	ccc	tct	tcc	tcc	atc	tct	caa	gat	aat	ata	gtt	gga	tca	aac	1440
Ser	Thr	Pro	Ser	Ser	Ser	Ile	Ser	Gln	Asp	Asn	Ile	Val	Gly	Ser	Asn	
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aaa	aac	aac	aca	att	tgt	ccc	gat	aat	tat	caa	aca	gca	cag	cta	ctt	1488
Lys	Asn	Asn	Thr	Ile	Cys	Pro	Asp	Asn	Tyr	Gln	Thr	Ala	Gln	Leu	Leu	
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gcc	tta	att	tta	gag	tta	ctc	aca	ttt	tgt	gtg	gaa	cat	cac	aca	tat	1536
Ala	Leu	Ile	Leu	Glu	Leu	Leu	Thr	Phe	Cys	Val	Glu	His	His	Thr	Tyr	
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cac	ata	aaa	aac	tat	att	atg	aac	aag	gac	ttg	cta	aga	aga	gtc	ttg	1584
His	Ile	Lys	Asn	Tyr	Ile	Met	Asn	Lys	Asp	Leu	Leu	Arg	Arg	Val	Leu	
		355					360					365				
gtc	ttg	atg	aat	tca	aag	cac	act	ttt	ctg	gcc	ttg	tgt	gcc	ctt	cgc	1632
Val	Leu	Met	Asn	Ser	Lys	His	Thr	Phe	Leu	Ala	Leu	Cys	Ala	Leu	Arg	
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Ile	Thr	Lys	Gly	Asn	Leu	Phe	Glu	Pro	Val	Ile	Asn	Ala	Leu	Leu	Asp	
				405					410					415		
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Asn	Gly	Thr	Arg	Tyr	Asn	Leu	Leu	Asn	Ser	Ala	Val	Ile	Glu	Leu	Phe	
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gaa	ttt	ata	aga	gtg	gaa	gat	atc	aag	tct	ctt	act	gcc	cat	ata	gtt	1824
Glu	Phe	Ile	Arg	Val	Glu	Asp	Ile	Lys	Ser	Leu	Thr		His	Ile	Val	
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gat gca aaa gcc ttg Asp Ala Lys Ala Leu 500	gaa gag gat gaa gaa Glu Glu Asp Glu Glu 505	atg tgg ttt aat gaa gat Met Trp Phe Asn Glu Asp 510	2016
gaa gaa gag gaa gga Glu Glu Glu Glu Gly 515	aaa gca gtt gtg gca Lys Ala Val Val Ala 520	cca gtg gaa aaa cct aag Pro Val Glu Lys Pro Lys 525	2064
cca gaa gat gat ttt Pro Glu Asp Asp Phe 530	cca gat aat tat gaa Pro Asp Asn Tyr Glu 535	aag ttt atg gag act aaa Lys Phe Met Glu Thr Lys 540	2112
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cct ggt ggc ttc aaa Pro Gly Gly Phe Lys 565	ttt act ttc tcc cac Phe Thr Phe Ser His 570	tct gcc agt gct gct aat Ser Ala Ser Ala Ala Asn 575	2208
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<210> 46
<211> 641
<212> PRT
<213> Homo sapiens

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<222> (162)..(162)
<223> The 'Xaa' at location 162 stands for Asn, or Ile.

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<400> 46

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Arg Gln Trp Asp Asp Arg Gly Thr Gly His Val Ser Ser Thr Tyr Val
20          25          30

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Glu Glu Leu Lys Gly Met Ser Leu Leu Val Arg Ala Glu Ser Asp Gly
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Ser Ieu Leu Leu Glu Ser Lys Ile Asn Pro Asn Thr Ala Tyr Gln Lys
50          55          60

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Gln Gln Asp Thr Leu Ile Val Trp Ser Glu Ala Glu Asn Tyr Asp Leu
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Ala Leu Ser Phe Gln Glu Lys Ala Gly Cys Asp Glu Ile Trp Glu Lys
85 90 95

Ile Cys Gln Glu Asp Glu Lys Phe Leu Ser Glu Val Phe Ala Gln Leu
100 105 110

Thr Asp Glu Ala Thr Asp Asp Asp Lys Arg Arg Glu Leu Val Asn Phe
115 120 125

Phe Lys Glu Phe Cys Ala Phe Ser Gln Thr Leu Gln Pro Gln Asn Arg
130 135 140

Asp Ala Phe Phe Lys Thr Leu Ala Lys Leu Gly Ile Leu Pro Ala Leu
145 150 155 160

Glu Xaa Val Met Gly Met Asp Asp Leu Gln Val Arg Ser Ala Ala Thr
165 170 175

Asp Ile Phe Ser Tyr Leu Val Glu Phe Ser Pro Ser Met Val Arg Glu
180 185 190

Phe Val Met Gln Glu Ala Gln Gln Ser Asp Asp Asp Ile Leu Leu Ile
195 200 205

Asn Val Val Ile Glu Gln Met Ile Cys Asp Thr Asp Pro Glu Leu Gly
210 215 220

Gly Ala Val Gln Leu Met Gly Leu Leu Arg Thr Leu Ile Asp Pro Glu
225 230 235 240

Asn Met Leu Ala Thr Thr Asn Lys Thr Glu Lys Ser Glu Phe Leu Asn
245 250 255

Phe Phe Tyr Asn His Cys Met His Val Leu Thr Ala Pro Leu Leu Thr
260 265 270

Asn Thr Ser Glu Asp Lys Cys Glu Lys Asp Phe Phe Leu Lys His Tyr
275 280 285

Arg Tyr Ser Trp Ser Phe Ile Cys Thr Pro Ser His Ser His Ser His
290 295 300

Ser Thr Pro Ser Ser Ser Ile Ser Gln Asp Asn Ile Val Gly Ser Asn
305 310 315 320

Lys Asn Asn Thr Ile Cys Pro Asp Asn Tyr Gln Thr Ala Gln Leu Leu
325 330 335

Ala Leu Ile Leu Glu Leu Leu Thr Phe Cys Val Glu His His Thr Tyr
340 345 350

His Ile Lys Asn Tyr Ile Met Asn Lys Asp Leu Leu Arg Arg Val Leu
355 360 365

Val Leu Met Asn Ser Lys His Thr Phe Leu Ala Leu Cys Ala Leu Arg
370 375 380

Phe Met Arg Arg Ile Ile Gly Leu Lys Asp Glu Phe Tyr Asn Arg Tyr
385 390 395 400

Ile Thr Lys Gly Asn Leu Phe Glu Pro Val Ile Asn Ala Leu Leu Asp
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Asn Gly Thr Arg Tyr Asn Leu Leu Asn Ser Ala Val Ile Glu Leu Phe
420 425 430

Glu Phe Ile Arg Val Glu Asp Ile Lys Ser Leu Thr Ala His Ile Val
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Glu Asn Phe Tyr Lys Ala Leu Glu Ser Ile Glu Tyr Val Gln Thr Phe
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Lys Gly Leu Lys Thr Lys Tyr Glu Gln Glu Lys Asp Arg Gln Asn Gln
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Lys Leu Asn Ser Val Pro Ser Ile Leu Arg Ser Asn Arg Phe Arg Arg
485 490 495

Asp Ala Lys Ala Leu Glu Glu Asp Glu Glu Met Trp Phe Asn Glu Asp
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Glu Glu Glu Glu Gly Lys Ala Val Val Ala Pro Val Glu Lys Pro Lys
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Pro Glu Asp Asp Phe Pro Asp Asn Tyr Glu Lys Phe Met Glu Thr Lys
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Lys Ala Lys Glu Ser Glu Asp Lys Glu Asn Leu Pro Lys Arg Thr Ser
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Pro Gly Gly Phe Lys Phe Thr Phe Ser His Ser Ala Ser Ala Ala Asn
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Gly Thr Asn Ser Lys Ser Val Val Ala Gln Ile Pro Pro Ala Thr Ser
580 585 590

Asn Gly Ser Ser Ser Lys Thr Thr Asn Leu Pro Thr Ser Val Thr Ala
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Met Ser Asp Thr Arg Arg Arg
1 5
gtg aag gtc tat acc ctg aac gaa gac cgg caa tgg gac gac cga ggc 461
Val Lys Val Tyr Thr Leu Asn Glu Asp Arg Gln Trp Asp Asp Arg Gly
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Thr Gly His Val Ser Ser Thr Tyr Val Glu Glu Leu Lys Gly Met Ser
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ctg ctg gtt cgg gca gag tcc gac gga tca cta ctc ttg gaa tca aag 557
Leu Leu Val Arg Ala Glu Ser Asp Gly Ser Leu Leu Leu Glu Ser Lys
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Ile Asn Pro Asn Thr Ala Tyr Gln Lys Gln Gln Asp Thr Leu Ile Val
60 65 70

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Trp Ser Glu Ala Glu Asn Tyr Asp Leu Ala Leu Ser Phe Gln Glu Lys	
75 80 85	
gct ggc tgt gat gag atc tgg gaa aaa att tgt cag gtt caa ggt aaa	701
Ala Gly Cys Asp Glu Ile Trp Glu Lys Ile Cys Gln Val Gln Gly Lys	
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Asp Pro Ser Val Glu Val Thr Gln Asp Leu Ile Asp Glu Ser Glu Glu	
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Glu Arg Phe Glu Glu Met Pro Glu Thr Ser His Leu Ile Asp Leu Pro	
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Thr Cys Glu Leu Asn Lys Leu Glu Glu Ile Ala Asp Leu Val Thr Ser	
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Val Leu Ser Ser Pro Ile Arg Arg Glu Lys Leu Ala Leu Ala Leu Glu	
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Asn Glu Gly Tyr Ile Lys Lys Leu Leu Gln Leu Phe Gln Ala Cys Glu	
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Asn Leu Glu Asn Thr Glu Gly Leu His His Leu Tyr Glu Ile Ile Arg	
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Gly Ile Leu Phe Leu Asn Lys Ala Thr Leu Phe Glu Val Met Phe Ser	
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Leu Ala Gln Pro Lys Arg His Arg Glu Phe Leu Thr Lys Thr Ala Lys	
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Phe Lys Glu Val Ile Pro Ile Thr Asp Ser Glu Leu Arg Gln Lys Ile	
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His Gln Thr Tyr Arg Val Gln Tyr Ile Gln Asp Ile Ile Leu Pro Thr	
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Pro Ser Val Phe Glu Glu Asn Phe Leu Ser Thr Leu Thr Ser Phe Ile	
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gat aat tat caa aca gca cag cta ctt gcc tta att tta gag tta ctc Asp Asn Tyr Gln Thr Ala Gln Leu Leu Ala Leu Ile Leu Glu Leu Leu 505 510 515	1949
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Ile Cys Gln Val Gln Gly Lys Asp Pro Ser Val Glu Val Thr Gln Asp
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Ser His Leu Ile Asp Leu Pro Thr Cys Glu Leu Asn Lys Leu Glu Glu
130 135 140

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Lys Leu Ala Leu Ala Leu Glu Asn Glu Gly Tyr Ile Lys Lys Leu Leu
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Gln Leu Phe Gln Ala Cys Glu Asn Leu Glu Asn Thr Glu Gly Leu His
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His Leu Tyr Glu Ile Ile Arg Gly Ile Leu Phe Leu Asn Lys Ala Thr
195 200 205

Leu Phe Glu Val Met Phe Ser Asp Glu Cys Ile Met Asp Val Val Gly
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Ser Glu Leu Arg Gln Lys Ile His Gln Thr Tyr Arg Val Gln Tyr Ile
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Glu Ile Val Met Gly Met Asp Asp Leu Gln Val Arg Ser Ala Ala Thr
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Phe Val Met Gln Glu Ala Gln Gln Ser Asp Asp Asp Ile Leu Leu Ile
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Asn Val Val Ile Glu Gln Met Ile Cys Asp Thr Asp Pro Glu Leu Gly
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Gly Ala Val Gln Leu Met Gly Leu Leu Arg Thr Leu Ile Asp Pro Glu
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Asn Met Leu Ala Thr Thr Asn Lys Thr Glu Lys Ser Glu Phe Leu Asn
450 455 460

Phe Phe Tyr Asn His Cys Met His Val Leu Thr Ala Pro Leu Leu Thr
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Asn Thr Ser Glu Asp Lys Cys Glu Lys Asp Asn Ile Val Gly Ser Asn
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Lys Asn Asn Thr Ile Cys Pro Asp Asn Tyr Gln Thr Ala Gln Leu Leu
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Ala Leu Ile Leu Glu Leu Leu Thr Phe Cys Val Glu His His Thr Tyr
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His Ile Lys Asn Tyr Ile Met Asn Lys Asp Leu Leu Arg Arg Val Leu
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Val Leu Met Asn Ser Lys His Thr Phe Leu Ala Leu Cys Ala Leu Arg
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Phe Met Arg Arg Ile Ile Gly Leu Lys Asp Glu Phe Tyr Asn Arg Tyr
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Ile Thr Lys Gly Asn Leu Phe Glu Pro Val Ile Asn Ala Leu Leu Asp
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Asn Gly Thr Arg Tyr Asn Leu Leu Asn Ser Ala Val Ile Glu Leu Phe
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Glu Phe Ile Arg Val Glu Asp Ile Lys Ser Leu Thr Ala His Ile Val
610 615 620

Glu Asn Phe Tyr Lys Ala Leu Glu Ser Ile Glu Tyr Val Gln Thr Phe
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Lys Gly Leu Lys Thr Lys Tyr Glu Gln Glu Lys Asp Arg Gln Asn Gln
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Lys Leu Asn Ser Val Pro Ser Ile Leu Arg Ser Asn Arg Phe Arg Arg
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Pro Glu Asp Asp Phe Pro Asp Asn Tyr Glu Lys Phe Met Glu Thr Lys
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Lys Ala Lys Glu Ser Glu Asp Lys Glu Asn Leu Pro Lys Arg Thr Ser
725 730 735

Pro Gly Gly Phe Lys Phe Thr Phe Ser His Ser Ala Ser Ala Ala Asn
740 745 750

Gly Thr Asn Ser Lys Ser Val Val Ala Gln Ile Pro Pro Ala Thr Ser
755 760 765

Asn Gly Ser Ser Ser Lys Thr Thr Asn Leu Pro Thr Ser Val Thr Ala
770 775 780

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Glu Ala Ser Leu Asp Ala Leu Leu Ser Gln Val Ala Asp Leu Lys Asn
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Ser Leu Gly Ser Phe Ile Cys Lys Leu Glu Asn Glu Tyr Gly Arg Leu
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acc tgg cca tct gtc ctg gac agc ttt gcc ttg ctt tct gga cag ctg 197
Thr Trp Pro Ser Val Leu Asp Ser Phe Ala Leu Leu Ser Gly Gln Leu
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Asn Thr Leu Asn Lys Val Leu Lys His Glu Lys Thr Pro Leu Phe Arg
60 65 70

aac cag gtc atc att cct ctg gtg ttg tct cca gac cga gat gaa gat 293
Asn Gln Val Ile Ile Pro Leu Val Leu Ser Pro Asp Arg Asp Glu Asp
75 80 85

ctc atg cgg cag act gaa gga cgg gtg cct gtt ttc agc cat gag gta 341
Leu Met Arg Gln Thr Glu Gly Arg Val Pro Val Phe Ser His Glu Val
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gtc cct gac cat ctg aga acc aag cct gac cct gaa gtg gaa gaa cag 389
Val Pro Asp His Leu Arg Thr Lys Pro Asp Pro Glu Val Glu Glu Gln
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Glu Lys Gln Leu Thr Thr Asp Ala Ala Arg Ile Gly Ala Asp Ala Ala
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Gln Lys Gln Ile Gln Ser Leu Asn Lys Met Cys Ser Asn Leu Leu Glu
140 145 150

aaa atc agc aaa gag gag cga gaa tca gag agt gga ggt ctc cgg ccg 533
Lys Ile Ser Lys Glu Glu Arg Glu Ser Glu Ser Gly Gly Leu Arg Pro
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Val Ala Phe Gly Lys Gly Leu Ser Asn Trp Arg Pro Ser Gly Ser Ser	
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Gly Pro Gly Gln Ala Gly Gln Pro Gly Ala Gly Thr Ile Leu Ala Gly	
205 210 215	
acc tca gga tta cag cag gtg cag atg gca gga gct cca agc cag cag	725
Thr Ser Gly Leu Gln Gln Val Gln Met Ala Gly Ala Pro Ser Gln Gln	
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cag cca atg ctc agt ggg gta caa atg gct cag gca ggt caa cca ggg	773
Gln Pro Met Leu Ser Gly Val Gln Met Ala Gln Ala Gly Gln Pro Gly	
235 240 245	
aaa atg cca agt gga ata aaa acc aac atc aag tcg gct tcc atg cat	821
Lys Met Pro Ser Gly Ile Lys Thr Asn Ile Lys Ser Ala Ser Met His	
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Leu Glu Asn Glu Tyr Gly Arg Leu Thr Trp Pro Ser Val Leu Asp Ser	
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Phe Ala Leu Leu Ser Gly Gln Leu Asn Thr Leu Asn Lys Val Leu Lys	
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His Glu Lys Thr Pro Leu Phe Arg Asn Gln Val Ile Ile Pro Leu Val
65 70 75 80

Leu Ser Pro Asp Arg Asp Glu Asp Leu Met Arg Gln Thr Glu Gly Arg
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Val Pro Val Phe Ser His Glu Val Val Pro Asp His Leu Arg Thr Lys
100 105 110

Pro Asp Pro Glu Val Glu Glu Gln Glu Lys Gln Leu Thr Thr Asp Ala
115 120 125

Ala Arg Ile Gly Ala Asp Ala Ala Gln Lys Gln Ile Gln Ser Leu Asn
130 135 140

Lys Met Cys Ser Asn Leu Leu Glu Lys Ile Ser Lys Glu Glu Arg Glu
145 150 155 160

Ser Glu Ser Gly Gly Leu Arg Pro Asn Lys Gln Thr Phe Asn Pro Thr
165 170 175

Asp Thr Asn Ala Leu Val Ala Ala Val Ala Phe Gly Lys Gly Leu Ser
180 185 190

Asn Trp Arg Pro Ser Gly Ser Ser Gly Pro Gly Gln Ala Gly Gln Pro
195 200 205

Gly Ala Gly Thr Ile Leu Ala Gly Thr Ser Gly Leu Gln Gln Val Gln
210 215 220

Met Ala Gly Ala Pro Ser Gln Gln Gln Pro Met Leu Ser Gly Val Gln
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Met Ala Gln Ala Gly Gln Pro Gly Lys Met Pro Ser Gly Ile Lys Thr
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Asn Ile Lys Ser Ala Ser Met His Pro Tyr Gln Arg
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Leu Ala Arg Lys Ile Lys Thr Phe Ala Thr Lys Met Val Ile Thr Ser
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agt gtc ttg gca atg ctg ggg att atc ggg acc att ctg aac ctg att      679
Ser Val Leu Ala Met Leu Gly Ile Ile Gly Thr Ile Leu Asn Leu Ile
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gtg atc ata ttt gtc tac ata tac acc acc ctg tgaatggccc agagcgtcct      732
Val Ile Ile Phe Val Tyr Ile Tyr Thr Thr Leu
55                60                65

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Leu
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cagtaaga atg tct ttt cca cct cat ttg aat cgc cct ccc atg gga atc 230
Met Ser Phe Pro Pro His Leu Asn Arg Pro Pro Met Gly Ile
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Pro Ala Leu Pro Pro Gly Ile Pro Pro Pro Gln Phe Pro Gly Phe Pro
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Pro Pro Val Pro Pro Gly Thr Pro Met Ile Pro Val Pro Met Ser Ile
35 40 45
atg gct cct gct cca act gtc tta gta ccc act gtg tct atg gtt gga 374
Met Ala Pro Ala Pro Thr Val Leu Val Pro Thr Val Ser Met Val Gly
50 55 60
aag cat ttg ggc gca aga aag gat cat cca ggc tta aag gct aaa gaa 422
Lys His Leu Gly Ala Arg Lys Asp His Pro Gly Leu Lys Ala Lys Glu
65 70 75
aat gat gaa aat tgt ggt cct act acc act gtt ttt gtt ggc aac att 470
Asn Asp Glu Asn Cys Gly Pro Thr Thr Thr Val Phe Val Gly Asn Ile
80 85 90

tcc gag aaa gct tca gac atg ctt ata aga caa ctc tta gct aaa tgt Ser Glu Lys Ala Ser Asp Met Leu Ile Arg Gln Leu Leu Ala Lys Cys 95 100 105 110	518
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aca cat aag aaa ctg gaa gaa gag aaa ggc aaa aag gaa aaa gaa aga Thr His Lys Lys Leu Glu Glu Glu Lys Gly Lys Lys Glu Lys Glu Arg 290 295 300	1094
cag gaa att gag aaa gaa cgg aga gaa aga gag agg gag cgt gaa agg Gln Glu Ile Glu Lys Glu Arg Arg Glu Arg Glu Arg Glu Arg Glu Arg 305 310 315	1142
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cga gaa aag gag aaa gaa cgg gag cgg gaa cga gaa cgg gat agg gac Arg Glu Lys Glu Lys Glu Arg Glu Arg Glu Arg Glu Arg Asp Arg Asp 335 340 345 350	1238

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Arg	Leu	Leu	His	Asp	Leu	Gln	Ile	Gly	Glu	Lys	Lys	Leu	Leu	Val	Lys	145	150	155
Val	Asp	Ala	Lys	Thr	Lys	Ala	Gln	Leu	Asp	Glu	Trp	Lys	Ala	Lys	Lys	165	170	175
Lys	Ala	Ser	Asn	Gly	Asn	Ala	Arg	Pro	Glu	Thr	Val	Thr	Asn	Asp	Asp	180	185	190
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Gly	Ala	Ile	Glu	Val	Leu	Ile	Arg	Glu	Tyr	Ser	Ser	Glu	Leu	Asn	Ala	210	215	220
Pro	Ser	Gln	Glu	Ser	Asp	Ser	His	Pro	Arg	Lys	Lys	Lys	Lys	Glu	Lys	225	230	235
Lys	Glu	Asp	Ile	Phe	Arg	Arg	Phe	Pro	Val	Ala	Pro	Leu	Ile	Pro	Tyr	245	250	255
Pro	Leu	Ile	Thr	Lys	Glu	Asp	Ile	Asn	Ala	Ile	Glu	Met	Glu	Glu	Asp	260	265	270
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Arg Thr Lys Glu Arg Asp Arg Asp Arg Asp Arg Glu Arg Asp Arg Asp
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 370 375 380

Arg Glu Lys Ser Arg Asp Arg Glu Arg Glu Arg Glu Arg Glu Arg Glu
 385 390 395 400

Arg Glu Arg Glu Arg Glu Arg Glu Arg Glu Arg Glu Arg Glu Arg Glu
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Arg Glu Arg Glu Arg Glu Arg Glu Arg Glu Lys Asp Lys Lys Arg Asp
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Arg Glu Glu Asp Glu Glu Asp Ala Tyr Glu Arg Arg Lys Leu Glu Arg
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Lys Leu Arg Glu Lys Glu Ala Ala Tyr Gln Glu Arg Leu Lys Asn Trp
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Glu Ile Arg Glu Arg Lys Lys Thr Arg Glu Tyr Glu Lys Glu Ala Glu
 465 470 475 480

Arg Glu Glu Glu Arg Arg Arg Glu Met Ala Lys Glu Ala Lys Arg Leu
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Lys Glu Phe Leu Glu Asp Tyr Asp Asp Arg Asp Asp Pro Lys Tyr
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Tyr Arg Gly Ser Ala Leu Gln Lys Arg Leu Arg Asp Arg Glu Lys Glu
 515 520 525

Met Glu Ala Asp Glu Arg Asp Arg Lys Arg Glu Lys Glu Glu Leu Glu
 530 535 540

Glu Ile Arg Gln Arg Leu Leu Ala Glu Gly His Pro Asp Pro Asp Ala
545 550 555 560

Glu Leu Gln Arg Met Glu Gln Glu Ala Glu Arg Arg Arg Gln Pro Gln
565 570 575

Ile Lys Gln Glu Pro Glu Ser Glu Glu Glu Glu Glu Lys Gln Glu
580 585 590

Lys Glu Glu Lys Arg Glu Glu Pro Met Glu Glu Glu Glu Glu Pro Glu
595 600 605

Gln Lys Pro Cys Leu Lys Pro Thr Leu Arg Pro Ile Ser Ser Ala Pro
610 615 620

Ser Val Ser Ser Ala Ser Gly Asn Ala Thr Pro Asn Thr Pro Gly Asp
625 630 635 640

Glu Ser Pro Cys Gly Ile Ile Ile Pro His Glu Asn Ser Pro Asp Gln
645 650 655

Gln Gln Pro Glu Glu His Arg Pro Lys Ile Gly Leu Ser Leu Lys Leu
660 665 670

Gly Ala Ser Asn Ser Pro Gly Gln Pro Asn Ser Val Lys Arg Lys Lys
675 680 685

Leu Pro Val Asp Ser Val Phe Asn Lys Phe Glu Asp Glu Asp Ser Asp
690 695 700

Asp Val Pro Arg Lys Arg Lys Leu Val Pro Leu Asp Tyr Gly Glu Asp
705 710 715 720

Asp Lys Asn Ala Thr Lys Gly Thr Val Asn Thr Glu Glu Lys Arg Lys
725 730 735

His Ile Lys Ser Leu Ile Glu Lys Ile Pro Thr Ala Lys Pro Glu Leu
740 745 750

Phe Ala Tyr Pro Leu Asp Trp Ser Ile Val Asp Ser Ile Leu Met Glu
755 760 765

Arg Arg Ile Arg Pro Trp Ile Asn Lys Lys Ile Ile Glu Tyr Ile Gly
770 775 780

Glu Glu Glu Ala Thr Leu Val Asp Phe Val Cys Ser Lys Val Met Ala
785 790 795 800

His Ser Ser Pro Gln Ser Ile Leu Asp Asp Val Ala Met Val Leu Asp
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cgtaacctgg atcccagaag gtcgcgaagg cagtaccgtt tcctcagcgg cggactgctg 180
cagtaaga atg tct ttt cca cct cat ttg aat cgc cct ccc atg gga atc 230
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Pro Ala Leu Pro Pro Gly Ile Pro Pro Pro Gln Phe Pro Gly Phe Pro
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Pro Pro Val Pro Pro Gly Thr Pro Met Ile Pro Val Pro Met Ser Ile
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atg gct cct gct cca act gtc tta gta ccc act gtg tct atg gtt gga 374
Met Ala Pro Ala Pro Thr Val Leu Val Pro Thr Val Ser Met Val Gly
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Lys His Leu Gly Ala Arg Lys Asp His Pro Gly Leu Lys Ala Lys Glu
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Asn Asp Glu Asn Cys Gly Pro Thr Thr Thr Val Phe Val Gly Asn Ile
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Ser Glu Lys Ala Ser Asp Met Leu Ile Arg Gln Leu Leu Ala Lys Cys
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Pro	Tyr	Pro	Leu	Ile	Thr	Lys	Glu	Asp	Ile	Asn	Ala	Ile	Glu	Met	Glu	
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Glu	Asp	Lys	Arg	Asp	Leu	Ile	Ser	Arg	Glu	Ile	Ser	Lys	Phe	Arg	Asp	
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Gln	Glu	Ile	Glu	Lys	Glu	Arg	Arg	Glu	Arg	Glu	Arg	Glu	Arg	Glu	Arg	
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Arg	Asp	Arg	Glu	Glu	Asp	Glu	Glu	Asp	Ala	Tyr	Glu	Arg	Arg	Lys	Leu	
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Ala Glu Arg Glu Glu Glu Arg Arg Arg Glu Met Ala Lys Glu Ala Lys	
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Arg Leu Lys Glu Phe Leu Glu Asp Tyr Asp Asp Asp Arg Asp Asp Pro	
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Lys Ala Ser Asp Met Leu Ile Arg Gln Leu Leu Ala Lys Cys Gly Leu
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135

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Tyr Arg Gly Ser Ala Leu Gln Lys Arg Leu Arg Asp Arg Glu Lys Glu						
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Met Glu Ala Asp Glu Arg Asp Arg Lys Arg Glu Lys Glu Glu Leu Glu						
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Glu Ile Arg Gln Arg Leu Leu Ala Glu Gly His Pro Asp Pro Asp Ala						
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Gln Gln Pro Glu Glu His Arg Pro Lys Ile Gly Leu Ser Leu Lys Leu						
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Leu Pro Val Asp Ser Val Phe Asn Lys Phe Glu Asp Glu Asp Ser Asp						
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Arg Arg Ile Arg Pro Trp Ile Asn Lys Lys Ile Ile Glu Tyr Ile Gly 705 710 715 720		
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Gln Gln Val Ser Ser Gln Glu Leu Ser Cys Lys Gly Arg Cys Phe Glu	
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Ser Phe Glu Arg Gly Arg Glu Cys Asp Cys Asp Ala Gln Cys Lys Lys	
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Asn Pro Thr Ser Pro Pro Ser Ser Lys Lys Ala Pro Pro Pro Ser Gly	
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Ala Ser Gln Thr Ile Lys Ser Thr Thr Lys Arg Ser Pro Lys Pro Pro	
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Asn Lys Lys Lys Thr Lys Lys Val Ile Glu Ser Glu Glu Ile Thr Glu	
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Val Lys Asp Asn Lys Lys Asn Arg Thr Lys Lys Lys Pro Thr Pro Lys	
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Lys Val Thr Thr Pro Asp Thr Ser Thr Thr Gln His Asn Lys Val Ser	
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Ser Ile Glu Lys Thr Ser Ala Lys Asp Leu Ala Pro Thr Ser Lys Val	
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340 345 350 355	
ccc aag aag cct gcc cca act acc ccc aag gag cct gca ccc acc act	1221
Pro Lys Lys Pro Ala Pro Thr Thr Pro Lys Glu Pro Ala Pro Thr Thr	
360 365 370	
ccc aag gag cct aca ccc acc act ccc aag gag cct gca ccc acc acc	1269
Pro Lys Glu Pro Thr Pro Thr Thr Pro Lys Glu Pro Ala Pro Thr Thr	
375 380 385	
aag gag cct gca ccc acc act ccc aaa gag cct gca ccc act gcc ccc	1317
Lys Glu Pro Ala Pro Thr Thr Pro Lys Glu Pro Ala Pro Thr Ala Pro	
390 395 400	
aag aag cct gcc cca act acc ccc aag gag cct gca ccc acc act ccc	1365
Lys Lys Pro Ala Pro Thr Thr Pro Lys Glu Pro Ala Pro Thr Thr Pro	
405 410 415	
aag gag cct gca ccc acc acc acc aag gag cct tca ccc acc act ccc	1413
Lys Glu Pro Ala Pro Thr Thr Thr Lys Glu Pro Ser Pro Thr Thr Pro	
420 425 430 435	
aag gag cct gca ccc acc acc acc aag tct gca ccc acc act acc aag	1461
Lys Glu Pro Ala Pro Thr Thr Thr Lys Ser Ala Pro Thr Thr Thr Lys	
440 445 450	
gag cct gca ccc acc act acc aag tct gca ccc acc act ccc aag gag	1509
Glu Pro Ala Pro Thr Thr Thr Lys Ser Ala Pro Thr Thr Pro Lys Glu	
455 460 465	
cct tca ccc acc acc acc aag gag cct gca ccc acc act ccc aag gag	1557
Pro Ser Pro Thr Thr Thr Lys Glu Pro Ala Pro Thr Thr Pro Lys Glu	
470 475 480	
cct gca ccc acc acc ccc aag aag cct gcc cca act acc ccc aag gag	1605
Pro Ala Pro Thr Thr Pro Lys Lys Pro Ala Pro Thr Thr Pro Lys Glu	
485 490 495	
cct gca ccc acc act ccc aag gaa cct gca ccc acc acc acc aag aag	1653
Pro Ala Pro Thr Thr Pro Lys Glu Pro Ala Pro Thr Thr Thr Lys Lys	
500 505 510 515	
cct gca ccc acc act ccc aaa gag cct gcc cca act acc ccc aag gag	1701
Pro Ala Pro Thr Thr Pro Lys Glu Pro Ala Pro Thr Thr Pro Lys Glu	
520 525 530	
act gca ccc acc acc ccc aag aag ctc acg ccc acc acc ccc gag aag	1749
Thr Ala Pro Thr Thr Pro Lys Lys Leu Thr Pro Thr Thr Pro Glu Lys	
535 540 545	
ctc gca ccc acc acc cct gag aag ccc gca ccc acc acc cct gag gag	1797
Leu Ala Pro Thr Thr Pro Glu Lys Pro Ala Pro Thr Thr Pro Glu Glu	
550 555 560	

ctc gca ccc acc acc cct gag gag ccc aca ccc acc acc cct gag gag Leu Ala Pro Thr Thr Pro Glu Glu Pro Thr Pro Thr Pro Glu Glu 565 570 575	1845
cct gct ccc acc act ccc aag gca gcg gct ccc aac acc cct aag gag Pro Ala Pro Thr Thr Pro Lys Ala Ala Ala Pro Asn Thr Pro Lys Glu 580 585 590 595	1893
cct gct cca act acc cct aag gag cct gct cca act acc cct aag gag Pro Ala Pro Thr Thr Pro Lys Glu Pro Ala Pro Thr Thr Pro Lys Glu 600 605 610	1941
cct gct cca act acc cct aag gag act gct cca act acc cct aaa ggg Pro Ala Pro Thr Thr Pro Lys Glu Thr Ala Pro Thr Thr Pro Lys Gly 615 620 625	1989
act gct cca act acc ctc aag gaa cct gca ccc act act ccc aag aag Thr Ala Pro Thr Thr Leu Lys Glu Pro Ala Pro Thr Thr Pro Lys Lys 630 635 640	2037
cct gcc ccc aag gag ctt gca ccc acc acc acc aag gag ccc aca tcc Pro Ala Pro Lys Glu Leu Ala Pro Thr Thr Thr Lys Glu Pro Thr Ser 645 650 655	2085
acc acc tgt gac aag ccc gct cca act acc cct aag ggg act gct cca Thr Thr Cys Asp Lys Pro Ala Pro Thr Thr Pro Lys Gly Thr Ala Pro 660 665 670 675	2133
act acc cct aag gag cct gct cca act acc cct aag gag cct gct cca Thr Thr Pro Lys Glu Pro Ala Pro Thr Thr Pro Lys Glu Pro Ala Pro 680 685 690	2181
act acc cct aag ggg act gct cca act acc ctc aag gaa cct gca ccc Thr Thr Pro Lys Gly Thr Ala Pro Thr Thr Leu Lys Glu Pro Ala Pro 695 700 705	2229
act act ccc aag aag cct gcc ccc aag gag ctt gca ccc acc acc acc Thr Thr Pro Lys Lys Pro Ala Pro Lys Glu Leu Ala Pro Thr Thr Thr 710 715 720	2277
aag ggg ccc aca tcc acc acc tct gac aag cct gct cca act aca cct Lys Gly Pro Thr Ser Thr Thr Ser Asp Lys Pro Ala Pro Thr Thr Pro 725 730 735	2325
aag gag act gct cca act acc ccc aag gag cct gca ccc act acc ccc Lys Glu Thr Ala Pro Thr Thr Pro Lys Glu Pro Ala Pro Thr Thr Pro 740 745 750 755	2373
aag aag cct gct cca act act cct gag aca cct cct cca acc act tca Lys Lys Pro Ala Pro Thr Thr Pro Glu Thr Pro Pro Pro Thr Thr Ser 760 765 770	2421
gag gtc tct act cca act acc acc aag gag cct acc act atc cac aaa Glu Val Ser Thr Pro Thr Thr Thr Lys Glu Pro Thr Thr Ile His Lys 775 780 785	2469
agc cct gat gaa tca act cct gag ctt tct gca gaa ccc aca cca aaa Ser Pro Asp Glu Ser Thr Pro Glu Leu Ser Ala Glu Pro Thr Pro Lys 790 795 800	2517
gct ctt gaa aac agt ccc aag gaa cct ggt gta cct aca act aag act Ala Leu Glu Asn Ser Pro Lys Glu Pro Gly Val Pro Thr Thr Lys Thr 805 810 815	2565

cct gca gcg act aaa cct gaa atg act aca aca gct aaa gac aag aca Pro Ala Ala Thr Lys Pro Glu Met Thr Thr Thr Ala Lys Asp Lys Thr 820 825 830 835	2613
aca gaa aga gac tta cgt act aca cct gaa act aca act gct gca cct Thr Glu Arg Asp Leu Arg Thr Thr Pro Glu Thr Thr Thr Ala Ala Pro 840 845 850	2661
aag atg aca aaa gag aca gca act aca aca gaa aaa act acc gaa tcc Lys Met Thr Lys Glu Thr Ala Thr Thr Thr Thr Glu Lys Thr Thr Glu Ser 855 860 865	2709
aaa ata aca gct aca acc aca caa gta aca tct acc aca act caa gat Lys Ile Thr Ala Thr Thr Thr Gln Val Thr Ser Thr Thr Thr Gln Asp 870 875 880	2757
acc aca cca ttc aaa att act act ctt aaa aca act act ctt gca ccc Thr Thr Pro Phe Lys Ile Thr Thr Leu Lys Thr Thr Thr Leu Ala Pro 885 890 895	2805
aaa gta act aca aca aaa aag aca att act acc act gag att atg aac Lys Val Thr Thr Thr Lys Lys Thr Ile Thr Thr Thr Glu Ile Met Asn 900 905 910 915	2853
aaa cct gaa gaa aca gct aaa cca aaa gac aga gct act aat tct aaa Lys Pro Glu Glu Thr Ala Lys Pro Lys Asp Arg Ala Thr Asn Ser Lys 920 925 930	2901
gcg aca act cct aaa cct caa aag cca acc aaa gca ccc aaa aaa ccc Ala Thr Thr Pro Lys Pro Gln Lys Pro Thr Lys Ala Pro Lys Lys Pro 935 940 945	2949
act tct acc aaa aag cca aaa aca atg cct aga gtg aga aaa cca aag Thr Ser Thr Lys Lys Pro Lys Thr Met Pro Arg Val Arg Lys Pro Lys 950 955 960	2997
acg aca cca act ccc cgc aag atg aca tca aca atg cca gaa ttg aac Thr Thr Pro Thr Pro Arg Lys Met Thr Ser Thr Met Pro Glu Leu Asn 965 970 975	3045
cct acc tca aga ata gca gaa gcc atg ctc caa acc acc acc aga cct Pro Thr Ser Arg Ile Ala Glu Ala Met Leu Gln Thr Thr Thr Arg Pro 980 985 990 995	3093
aac caa act cca aac tcc aaa cta gtt gaa gta aat cca aag agt Asn Gln Thr Pro Asn Ser Lys Leu Val Glu Val Asn Pro Lys Ser 1000 1005 1010	3138
gaa gat gca ggt ggt gct gaa gga gaa aca cct cat atg ctt ctc Glu Asp Ala Gly Gly Ala Glu Gly Glu Thr Pro His Met Leu Leu 1015 1020 1025	3183
agg ccc cat gtg ttc atg cct gaa gtt act ccc gac atg gat tac Arg Pro His Val Phe Met Pro Glu Val Thr Pro Asp Met Asp Tyr 1030 1035 1040	3228
tta ccg aga gta ccc aat caa ggc att atc atc aat ccc atg ctt Leu Pro Arg Val Pro Asn Gln Gly Ile Ile Ile Asn Pro Met Leu 1045 1050 1055	3273
tcc gat gag acc aat ata tgc aat ggt aag cca gta gat gga ctg Ser Asp Glu Thr Asn Ile Cys Asn Gly Lys Pro Val Asp Gly Leu 1060 1065 1070	3318

act act ttg cgc aat	ggg aca tta gtt gca	ttc cga ggt cat tat	3363
Thr Thr Leu Arg Asn	Gly Thr Leu Val Ala	Phe Arg Gly His Tyr	
1075	1080	1085	
ttc tgg atg cta agt	cca ttc agt cca cca	tct cca gct cgc aga	3408
Phe Trp Met Leu Ser	Pro Phe Ser Pro Pro	Ser Pro Ala Arg Arg	
1090	1095	1100	
att act gaa gtt tgg	ggg att cct tcc ccc	att gat act gtt ttt	3453
Ile Thr Glu Val Trp	Gly Ile Pro Ser Pro	Ile Asp Thr Val Phe	
1105	1110	1115	
act agg tgc aac tgt	gaa gga aaa act ttc	ttc ttt aag gat tct	3498
Thr Arg Cys Asn Cys	Glu Gly Lys Thr Phe	Phe Phe Lys Asp Ser	
1120	1125	1130	
cag tac tgg cgt ttt	acc aat gat ata aaa	gat gca ggg tac ccc	3543
Gln Tyr Trp Arg Phe	Thr Asn Asp Ile Lys	Asp Ala Gly Tyr Pro	
1135	1140	1145	
aaa cca att ttc aaa	gga ttt gga gga cta	act gga caa ata gtg	3588
Lys Pro Ile Phe Lys	Gly Phe Gly Gly Leu	Thr Gly Gln Ile Val	
1150	1155	1160	
gca gcg ctt tca aca	gct aaa tat aag aac	tgg cct gaa tct gtg	3633
Ala Ala Leu Ser Thr	Ala Lys Tyr Lys Asn	Trp Pro Glu Ser Val	
1165	1170	1175	
tat ttt ttc aag aga	ggg ggc agc att cag	cag tat att tat aaa	3678
Tyr Phe Phe Lys Arg	Gly Gly Ser Ile Gln	Gln Tyr Ile Tyr Lys	
1180	1185	1190	
cag gaa cct gta cag	aag tgc cct gga aga	agg cct gct cta aat	3723
Gln Glu Pro Val Gln	Lys Cys Pro Gly Arg	Arg Pro Ala Leu Asn	
1195	1200	1205	
tat cca gtg tat gga	gaa acg aca cag gtt	agg aga cgt cgc ttt	3768
Tyr Pro Val Tyr Gly	Glu Thr Thr Gln Val	Arg Arg Arg Arg Phe	
1210	1215	1220	
gaa cgt gct ata gga	cct tct caa aca cac	acc atc aga att caa	3813
Glu Arg Ala Ile Gly	Pro Ser Gln Thr His	Thr Ile Arg Ile Gln	
1225	1230	1235	
tat tca cct gcc aga	ctg gct tat caa gac	aaa ggt gtc ctt cat	3858
Tyr Ser Pro Ala Arg	Leu Ala Tyr Gln Asp	Lys Gly Val Leu His	
1240	1245	1250	
aat gaa gtt aaa gtg	agt ata ctg tgg aga	gga ctt cca aat gtg	3903
Asn Glu Val Lys Val	Ser Ile Leu Trp Arg	Gly Leu Pro Asn Val	
1255	1260	1265	
gtt acc tca gct ata	tca ctg ccc aac atc	aga aaa cct gac ggc	3948
Val Thr Ser Ala Ile	Ser Leu Pro Asn Ile	Arg Lys Pro Asp Gly	
1270	1275	1280	
tat gat tac tat gcc	ttt tct aaa gat caa	tac tat aac att gat	3993
Tyr Asp Tyr Tyr Ala	Phe Ser Lys Asp Gln	Tyr Tyr Asn Ile Asp	
1285	1290	1295	
gtg cct agt aga aca	gca aga gca att act	act cgt tct ggg cag	4038
Val Pro Ser Arg Thr	Ala Arg Ala Ile Thr	Thr Arg Ser Gly Gln	
1300	1305	1310	

acc tta tcc aaa gtc tgg tac aac tgt cct tagactgatg agcaaaggag 4088
 Thr Leu Ser Lys Val Trp Tyr Asn Cys Pro
 1315 1320

gagtcaacta atgaagaaat gaataataaa ttttgacact gaaaaacatt ttattaataa 4148
 agaatattga catgagtata ccagtttata tataaaaatg tttttaaact tgacaatcat 4208
 tacactaaaa cagatttgat aatcttattc acagttgtta ttgtttacag accatttaat 4268
 taatattttcc tctgtttatt cctcctctcc ctcccattgc atgggtcaca cctgtaaaag 4328
 aaaaaagaat caaattgaat atatctttta agaattcaaa actagtgtat tcacttacct 4388
 tagttcatta taaaaaatat ctaggcattg tggatataaa actgttgggt attctacaac 4448
 ttcaatggaa attattacaa gcagattaat cctctttttt gtgacacaag tacaatctaa 4508
 aagttatatt ggaaaacatg gaaatattaa aattttacac ttttactagc taaaacataa 4568
 tcacaaagct ttatcgtggt gtataaaaaa attaacaata taatggcaat aggtagagat 4628
 acaacaaatg aatataacac tataacactt catattttcc aaatcttaat ttggatttaa 4688
 ggaagaaatc aataaatata aaatataagc acatatttat tatatatcta aggtatacaa 4748
 atctgtctac atgaagttta cagattggta aatatcacct gctcaacatg taattattta 4808
 ataaaacttt ggaacattaa aaaaataaat tggaggctt 4847

<210> 58
 <211> 1320
 <212> PRT
 <213> Homo sapiens
 <400> 58

Met Ala Trp Lys Thr Leu Pro Ile Tyr Leu Leu Leu Leu Leu Ser Val
 1 5 10 15

Phe Val Ile Gln Gln Val Ser Ser Gln Glu Leu Ser Cys Lys Gly Arg
 20 25 30

Cys Phe Glu Ser Phe Glu Arg Gly Arg Glu Cys Asp Cys Asp Ala Gln
 35 40 45

Cys Lys Lys Tyr Asp Lys Cys Cys Pro Asp Tyr Glu Ser Phe Cys Ala
 50 55 60

Glu Val His Asn Pro Thr Ser Pro Pro Ser Ser Lys Lys Ala Pro Pro
 65 70 75 80

Pro Ser Gly Ala Ser Gln Thr Ile Lys Ser Thr Thr Lys Arg Ser Pro
 85 90 95

Lys Pro Pro Asn Lys Lys Lys Thr Lys Lys Val Ile Glu Ser Glu Glu

100

105

110

Ile Thr Glu Val Lys Asp Asn Lys Lys Asn Arg Thr Lys Lys Lys Pro
 115 120 125

Thr Pro Lys Pro Pro Val Val Asp Glu Ala Gly Ser Gly Leu Asp Asn
 130 135 140

Gly Asp Phe Lys Val Thr Thr Pro Asp Thr Ser Thr Thr Gln His Asn
 145 150 155 160

Lys Val Ser Thr Ser Pro Lys Ile Thr Thr Ala Lys Pro Ile Asn Pro
 165 170 175

Arg Pro Ser Leu Pro Pro Asn Ser Asp Thr Ser Lys Glu Thr Ser Leu
 180 185 190

Thr Val Asn Lys Glu Thr Thr Val Glu Thr Lys Glu Thr Thr Thr Thr
 195 200 205

Asn Lys Gln Thr Ser Thr Asp Gly Lys Glu Lys Thr Thr Ser Ala Lys
 210 215 220

Glu Thr Gln Ser Ile Glu Lys Thr Ser Ala Lys Asp Leu Ala Pro Thr
 225 230 235 240

Ser Lys Val Leu Ala Lys Pro Thr Pro Lys Ala Glu Thr Thr Thr Lys
 245 250 255

Gly Pro Ala Leu Thr Thr Pro Lys Glu Pro Thr Pro Thr Thr Pro Lys
 260 265 270

Glu Pro Ala Ser Thr Thr Pro Lys Glu Pro Thr Pro Thr Thr Ile Lys
 275 280 285

Ser Ala Pro Thr Thr Pro Lys Glu Pro Ala Pro Thr Thr Thr Lys Ser
 290 295 300

Ala Pro Thr Thr Pro Lys Glu Pro Ala Pro Thr Thr Thr Lys Glu Pro
 305 310 315 320

Ala Pro Thr Thr Pro Lys Glu Pro Ala Pro Thr Thr Thr Lys Glu Pro
 325 330 335

Ala Pro Thr Thr Thr Lys Ser Ala Pro Thr Thr Pro Lys Glu Pro Ala
 340 345 350

Pro Thr Thr Pro Lys Lys Pro Ala Pro Thr Thr Pro Lys Glu Pro Ala

355		360		365
Pro Thr Thr Pro Lys Glu	Pro Thr Pro Thr Thr	Pro Lys Glu Pro Ala		
370	375	380		
Pro Thr Thr Lys Glu	Pro Ala Pro Thr Thr	Pro Lys Glu Pro Ala Pro		
385	390	395	400	
Thr Ala Pro Lys Lys	Pro Ala Pro Thr Thr	Pro Lys Glu Pro Ala Pro		
405	410	415		
Thr Thr Pro Lys Glu	Pro Ala Pro Thr Thr	Thr Lys Glu Pro Ser Pro		
420	425	430		
Thr Thr Pro Lys Glu	Pro Ala Pro Thr Thr	Thr Lys Ser Ala Pro Thr		
435	440	445		
Thr Thr Lys Glu Pro	Ala Pro Thr Thr	Lys Ser Ala Pro Thr Thr		
450	455	460		
Pro Lys Glu Pro Ser	Pro Thr Thr Thr	Lys Glu Pro Ala Pro Thr Thr		
465	470	475	480	
Pro Lys Glu Pro Ala	Pro Thr Thr Pro	Lys Lys Pro Ala Pro Thr Thr		
485	490	495		
Pro Lys Glu Pro Ala	Pro Thr Thr Pro	Lys Glu Pro Ala Pro Thr Thr		
500	505	510		
Thr Lys Lys Pro Ala	Pro Thr Thr Pro	Lys Glu Pro Ala Pro Thr Thr		
515	520	525		
Pro Lys Glu Thr Ala	Pro Thr Thr Pro	Lys Lys Leu Thr Pro Thr Thr		
530	535	540		
Pro Glu Lys Leu Ala	Pro Thr Thr Pro	Glu Lys Pro Ala Pro Thr Thr		
545	550	555	560	
Pro Glu Glu Leu Ala	Pro Thr Thr Pro	Glu Glu Pro Thr Pro Thr Thr		
565	570	575		
Pro Glu Glu Pro Ala	Pro Thr Thr Pro	Lys Ala Ala Ala Pro Asn Thr		
580	585	590		
Pro Lys Glu Pro Ala	Pro Thr Thr Pro	Lys Glu Pro Ala Pro Thr Thr		
595	600	605		
Pro Lys Glu Pro Ala	Pro Thr Thr Pro	Lys Glu Thr Ala Pro Thr Thr		

610		615		620
Pro Lys Gly Thr Ala	Pro Thr Thr Leu Lys Glu	Pro Ala Pro Thr Thr		
625	630	635		640
Pro Lys Lys Pro Ala	Pro Lys Glu Leu Ala	Pro Thr Thr Thr Lys Glu		
	645	650		655
Pro Thr Ser Thr Thr	Cys Asp Lys	Pro Ala Pro Thr Thr	Pro Lys Gly	
	660	665	670	
Thr Ala Pro Thr Thr	Pro Lys Glu	Pro Ala Pro Thr Thr	Pro Lys Glu	
	675	680	685	
Pro Ala Pro Thr Thr	Pro Lys Gly Thr Ala	Pro Thr Thr Leu Lys Glu		
	690	695	700	
Pro Ala Pro Thr Thr	Pro Lys Lys	Pro Ala Pro Lys Glu	Leu Ala Pro	
705	710	715	720	
Thr Thr Thr Lys Gly	Pro Thr Ser Thr Thr	Ser Asp Lys	Pro Ala Pro	
	725	730	735	
Thr Thr Pro Lys Glu	Thr Ala Pro Thr Thr	Pro Lys Glu	Pro Ala Pro	
	740	745	750	
Thr Thr Pro Lys Lys	Pro Ala Pro Thr Thr	Pro Glu Thr	Pro Pro Pro	
	755	760	765	
Thr Thr Ser Glu Val	Ser Thr Pro Thr Thr	Lys Glu	Pro Thr Thr	
	770	775	780	
Ile His Lys Ser Pro	Asp Glu Ser Thr	Pro Glu Leu Ser	Ala Glu Pro	
785	790	795	800	
Thr Pro Lys Ala Leu	Glu Asn Ser	Pro Lys Glu	Pro Gly Val	Pro Thr
	805	810	815	
Thr Lys Thr Pro Ala	Ala Thr Lys	Pro Glu Met	Thr Thr Thr	Ala Lys
	820	825	830	
Asp Lys Thr Thr Glu	Arg Asp Leu Arg	Thr Thr Pro	Glu Thr Thr Thr	
	835	840	845	
Ala Ala Pro Lys Met	Thr Lys Glu Thr	Ala Thr Thr	Thr Glu Lys Thr	
	850	855	860	
Thr Glu Ser Lys Ile	Thr Ala Thr Thr	Thr Gln Val	Thr Ser Thr Thr	

868		870		875		880
Thr Gln Asp Thr Thr Pro Phe Lys Ile Thr Thr Leu Lys Thr Thr Thr						
	885			890		895
Leu Ala Pro Lys Val Thr Thr Thr Lys Lys Thr Ile Thr Thr Thr Glu						
	900			905		910
Ile Met Asn Lys Pro Glu Glu Thr Ala Lys Pro Lys Asp Arg Ala Thr						
	915			920		925
Asn Ser Lys Ala Thr Thr Pro Lys Pro Gln Lys Pro Thr Lys Ala Pro						
	930			935		940
Lys Lys Pro Thr Ser Thr Lys Lys Pro Lys Thr Met Pro Arg Val Arg						
	945			950		955
Lys Pro Lys Thr Thr Pro Thr Pro Arg Lys Met Thr Ser Thr Met Pro						
		965		970		975
Glu Leu Asn Pro Thr Ser Arg Ile Ala Glu Ala Met Leu Gln Thr Thr						
	980			985		990
Thr Arg Pro Asn Gln Thr Pro Asn Ser Lys Leu Val Glu Val Asn Pro						
	995			1000		1005
Lys Ser Glu Asp Ala Gly Gly Ala Glu Gly Glu Thr Pro His Met						
	1010			1015		1020
Leu Leu Arg Pro His Val Phe Met Pro Glu Val Thr Pro Asp Met						
	1025			1030		1035
Asp Tyr Leu Pro Arg Val Pro Asn Gln Gly Ile Ile Ile Asn Pro						
	1040			1045		1050
Met Leu Ser Asp Glu Thr Asn Ile Cys Asn Gly Lys Pro Val Asp						
	1055			1060		1065
Gly Leu Thr Thr Leu Arg Asn Gly Thr Leu Val Ala Phe Arg Gly						
	1070			1075		1080
His Tyr Phe Trp Met Leu Ser Pro Phe Ser Pro Pro Ser Pro Ala						
	1085			1090		1095
Arg Arg Ile Thr Glu Val Trp Gly Ile Pro Ser Pro Ile Asp Thr						
	1100			1105		1110
Val Phe Thr Arg Cys Asn Cys Glu Gly Lys Thr Phe Phe Phe Lys						

1115		1120		1125
Asp Ser Gln Tyr Trp Arg Phe Thr Asn Asp Ile Lys Asp Ala Gly				
1130		1135		1140
Tyr Pro Lys Pro Ile Phe Lys Gly Phe Gly Gly Leu Thr Gly Gln				
1145		1150		1155
Ile Val Ala Ala Leu Ser Thr Ala Lys Tyr Lys Asn Trp Pro Glu				
1160		1165		1170
Ser Val Tyr Phe Phe Lys Arg Gly Gly Ser Ile Gln Gln Tyr Ile				
1175		1180		1185
Tyr Lys Gln Glu Pro Val Gln Lys Cys Pro Gly Arg Arg Pro Ala				
1190		1195		1200
Leu Asn Tyr Pro Val Tyr Gly Glu Thr Thr Gln Val Arg Arg Arg				
1205		1210		1215
Arg Phe Glu Arg Ala Ile Gly Pro Ser Gln Thr His Thr Ile Arg				
1220		1225		1230
Ile Gln Tyr Ser Pro Ala Arg Leu Ala Tyr Gln Asp Lys Gly Val				
1235		1240		1245
Leu His Asn Glu Val Lys Val Ser Ile Leu Trp Arg Gly Leu Pro				
1250		1255		1260
Asn Val Val Thr Ser Ala Ile Ser Leu Pro Asn Ile Arg Lys Pro				
1265		1270		1275
Asp Gly Tyr Asp Tyr Tyr Ala Phe Ser Lys Asp Gln Tyr Tyr Asn				
1280		1285		1290
Ile Asp Val Pro Ser Arg Thr Ala Arg Ala Ile Thr Thr Arg Ser				
1295		1300		1305
Gly Gln Thr Leu Ser Lys Val Trp Tyr Asn Cys Pro				
1310		1315		1320

<210> 59
 <211> 258
 <212> PRT
 <213> Homo sapiens

 <400> 59

Met	Glu	Val	Lys	Pro	Pro	Pro	Gly	Arg	Pro	Gln	Pro	Asp	Ser	Gly	Arg
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Arg Arg Arg Arg Arg Gly Glu Glu Gly His Asp Pro Lys Glu Pro Glu
20 25 30

Gln Leu Arg Lys Leu Phe Ile Gly Gly Leu Ser Phe Glu Thr Thr Asp
35 40 45

Asp Ser Leu Arg Glu His Phe Glu Lys Trp Gly Thr Leu Thr Asp Cys
50 55 60

Val Val Met Arg Asp Pro Gln Thr Lys Arg Ser Arg Gly Phe Gly Phe
65 70 75 80

Val Thr Tyr Ser Cys Val Glu Glu Val Asp Ala Ala Met Cys Ala Arg
85 90 95

Pro His Lys Val Asp Gly Arg Val Val Glu Pro Lys Arg Ala Val Ser
100 105 110

Arg Glu Asp Ser Val Lys Pro Gly Ala His Leu Thr Val Lys Lys Ile
115 120 125

Phe Val Gly Gly Ile Lys Glu Asp Thr Glu Glu Tyr Asn Leu Arg Asp
130 135 140

Tyr Phe Glu Lys Tyr Gly Lys Ile Glu Thr Ile Glu Val Met Glu Asp
145 150 155 160

Arg Gln Ser Gly Lys Lys Arg Gly Phe Ala Phe Val Thr Phe Asp Asp
165 170 175

His Asp Thr Val Asp Lys Ile Val Val Gln Lys Tyr His Thr Ile Asn
180 185 190

Gly His Asn Cys Glu Val Lys Lys Ala Leu Ser Lys Gln Glu Met Gln
195 200 205

Ser Ala Gly Ser Gln Arg Gly Arg Gly Gly Gly Ser Gly Asn Phe Met
210 215 220

Gly Arg Gly Gly Asn Phe Gly Gly Gly Gly Gly Asn Phe Gly Arg Gly
225 230 235 240

Gly Asn Phe Gly Gly Arg Gly Arg Leu Trp Trp Trp Arg Trp Trp Gln
245 250 255

Gln Arg

<210> 60
<211> 496
<212> PRT
<213> Homo sapiens

<400> 60

Met Thr Ala Gly Ile Asn Ala Asp Gly His Leu Ile Asn Thr Gly Gln
1 5 10 15

Ala Met Asp Ser Ser Asp Asn Ser Glu Arg Thr Gly Glu Arg Val Ser
20 25 30

Pro Asp Ile Asn Glu Thr Asn Thr Asp Thr Asp Leu Phe Val Pro Thr
35 40 45

Ser Ser Ser Ser Gln Leu Pro Val Thr Ile Asp Ser Thr Gly Ile Leu
50 55 60

Gln Gln Asn Thr Asn Ser Leu Thr Thr Ser Ser Gly Gln Val His Ser
65 70 75 80

Ser Asp Leu Gln Gly Asn Tyr Ile Gln Ser Pro Val Ser Glu Glu Thr
85 90 95

Gln Ala Gln Asn Ile Gln Val Ser Thr Ala Gln Pro Val Val Gln His
100 105 110

Leu Gln Leu Gln Glu Ser Gln Gln Pro Thr Ser Gln Ala Gln Ile Val
115 120 125

Gln Gly Ile Thr Pro Gln Thr Ile His Gly Val Gln Ala Ser Gly Gln
130 135 140

Asn Ile Ser Gln Gln Ala Leu Gln Asn Leu Gln Leu Gln Leu Asn Pro
145 150 155 160

Gly Thr Phe Leu Ile Gln Ala Gln Thr Val Thr Pro Ser Gly Gln Val
165 170 175

Thr Trp Gln Thr Phe Gln Val Gln Gly Val Gln Asn Leu Gln Asn Leu
180 185 190

Gln Ile Gln Asn Thr Ala Ala Gln Gln Ile Thr Leu Thr Pro Val Gln
195 200 205

Thr Leu Thr Leu Gly Gln Val Ala Ala Gly Gly Ala Phe Thr Ser Thr
210 215 220

Pro Val Ser Leu Ser Thr Gly Gln Leu Pro Asn Leu Gln Thr Val Thr
 225 230 235 240
 Val Asn Ser Ile Asp Ser Ala Gly Ile Gln Leu His Pro Gly Glu Asn
 245 250 255
 Ala Asp Ser Pro Ala Asp Ile Arg Ile Lys Glu Glu Glu Pro Asp Pro
 260 265 270
 Glu Glu Trp Gln Leu Ser Gly Asp Ser Thr Leu Asn Thr Asn Asp Leu
 275 280 285
 Thr His Leu Arg Val Gln Val Val Asp Glu Glu Gly Asp Gln Gln His
 290 295 300
 Gln Glu Gly Lys Arg Leu Arg Arg Val Ala Cys Thr Cys Pro Asn Cys
 305 310 315 320
 Lys Glu Gly Gly Gly Arg Gly Thr Asn Leu Gly Lys Lys Lys Gln His
 325 330 335
 Ile Cys His Ile Pro Gly Cys Gly Lys Val Tyr Gly Lys Thr Ser His
 340 345 350
 Leu Arg Ala His Leu Arg Trp His Ser Gly Glu Arg Pro Phe Val Cys
 355 360 365
 Asn Trp Met Tyr Cys Gly Lys Arg Phe Thr Arg Ser Asp Glu Leu Gln
 370 375 380
 Arg His Arg Arg Thr His Thr Gly Glu Lys Lys Phe Val Cys Pro Glu
 385 390 395 400
 Cys Ser Lys Arg Phe Met Arg Ser Asp His Leu Ala Lys His Ile Lys
 405 410 415
 Thr His Gln Asn Lys Lys Gly Ile His Ser Ser Ser Thr Val Leu Ala
 420 425 430
 Ser Val Glu Ala Ala Arg Asp Asp Thr Leu Ile Thr Ala Gly Gly Thr
 435 440 445
 Thr Leu Ile Leu Ala Lys Ile Gln Gln Gly Ser Val Ser Gly Ile Gly
 450 455 460
 Thr Val Asn Thr Ser Ala Thr Ser Asn Gln Asp Ile Leu Thr Asn Thr
 465 470 475 480

Glu Ile Pro Leu Gln Leu Val Thr Val Ser Gly Asn Glu Thr Met Glu
485 490 495

<210> 61
<211> 315
<212> PRT
<213> Homo sapiens

<400> 61

Met Asp Leu Arg Gln Phe Leu Met Cys Leu Ser Leu Cys Thr Ala Phe
1 5 10 15

Ala Leu Ser Lys Pro Thr Glu Lys Lys Asp Arg Val His His Glu Pro
20 25 30

Gln Leu Ser Asp Lys Val His Asn Asp Ala Gln Ser Phe Asp Tyr Asp
35 40 45

His Asp Ala Phe Leu Gly Ala Glu Glu Ala Lys Thr Phe Asp Gln Leu
50 55 60

Thr Pro Glu Glu Ser Lys Glu Arg Leu Gly Lys Ile Val Ser Lys Ile
65 70 75 80

Asp Gly Asp Lys Asp Gly Phe Val Thr Val Asp Glu Leu Lys Asp Trp
85 90 95

Ile Lys Phe Ala Gln Lys Arg Trp Ile Tyr Glu Asp Val Glu Arg Gln
100 105 110

Trp Lys Gly His Asp Leu Asn Glu Asp Gly Leu Val Ser Trp Glu Glu
115 120 125

Tyr Lys Asn Ala Thr Tyr Gly Tyr Val Leu Asp Asp Pro Asp Pro Asp
130 135 140

Asp Gly Phe Asn Tyr Lys Gln Met Met Val Arg Asp Glu Arg Arg Phe
145 150 155 160

Lys Met Ala Asp Lys Asp Gly Asp Leu Ile Ala Thr Lys Glu Glu Phe
165 170 175

Thr Ala Phe Leu His Pro Glu Glu Tyr Asp Tyr Met Lys Asp Ile Val
180 185 190

Val Gln Glu Thr Met Glu Asp Ile Asp Lys Asn Ala Asp Gly Phe Ile
195 200 205

Asp Leu Glu Glu Tyr Ile Gly Asp Met Tyr Ser His Asp Gly Asn Thr
 210 215 220
 Asp Glu Pro Glu Trp Val Lys Thr Glu Arg Glu Gln Phe Val Glu Phe
 225 230 235 240
 Arg Asp Lys Asn Arg Asp Gly Lys Met Asp Lys Glu Glu Thr Lys Asp
 245 250 255
 Trp Ile Leu Pro Ser Asp Tyr Asp His Ala Glu Ala Glu Ala Arg His
 260 265 270
 Leu Val Tyr Glu Ser Asp Gln Asn Lys Asp Gly Lys Leu Thr Lys Glu
 275 280 285
 Glu Ile Val Asp Lys Tyr Asp Leu Phe Val Gly Ser Gln Ala Thr Asp
 290 295 300
 Phe Gly Glu Ala Leu Val Arg His Asp Glu Phe
 305 310 315

 <210> 62
 <211> 336
 <212> PRT
 <213> Homo sapiens

 <400> 62

 Met Arg Ala Pro Ser Met Asp Arg Ala Ala Val Ala Arg Val Gly Ala
 1 5 10 15
 Val Ala Ser Ala Ser Val Cys Ala Leu Val Ala Gly Val Val Leu Ala
 20 25 30
 Gln Tyr Ile Phe Thr Leu Lys Arg Lys Thr Gly Arg Lys Thr Lys Ile
 35 40 45
 Ile Glu Met Met Pro Glu Phe Gln Lys Ser Ser Val Arg Ile Lys Asn
 50 55 60
 Pro Thr Arg Val Glu Glu Ile Ile Cys Gly Leu Ile Lys Gly Gly Ala
 65 70 75 80
 Ala Lys Leu Gln Ile Ile Thr Asp Phe Asp Met Thr Leu Ser Arg Phe
 85 90 95
 Ser Tyr Lys Gly Lys Arg Cys Pro Thr Cys His Asn Ile Ile Asp Asn
 100 105 110
 Cys Lys Leu Val Thr Asp Glu Cys Arg Lys Lys Leu Leu Gln Leu Lys

118

120

125

Glu Lys Tyr Tyr Ala Ile Glu Val Asp Pro Val Leu Thr Val Glu Glu
130 135 140

Lys Tyr Pro Tyr Met Val Glu Trp Tyr Thr Lys Ser His Gly Leu Leu
145 150 155 160

Val Gln Gln Ala Leu Pro Lys Ala Lys Leu Lys Glu Ile Val Ala Glu
165 170 175

Ser Asp Val Met Leu Lys Glu Gly Tyr Glu Asn Phe Phe Asp Lys Leu
180 185 190

Gln Gln His Ser Ile Pro Val Phe Ile Phe Ser Ala Gly Ile Gly Asp
195 200 205

Val Leu Glu Glu Val Ile Arg Gln Ala Gly Val Tyr His Pro Asn Val
210 215 220

Lys Val Val Ser Asn Phe Met Asp Phe Asp Glu Thr Gly Val Leu Lys
225 230 235 240

Gly Phe Lys Gly Glu Leu Ile His Val Phe Asn Lys His Asp Gly Ala
245 250 255

Leu Arg Asn Thr Glu Tyr Phe Asn Gln Leu Lys Asp Asn Ser Asn Ile
260 265 270

Ile Leu Leu Gly Asp Ser Gln Gly Asp Leu Arg Met Ala Asp Gly Val
275 280 285

Ala Asn Val Glu His Ile Leu Lys Ile Gly Tyr Leu Asn Asp Arg Val
290 295 300

Asp Glu Leu Leu Glu Lys Tyr Met Asp Ser Tyr Asp Ile Val Leu Val
305 310 315 320

Gln Asp Glu Ser Leu Glu Val Ala Asn Ser Ile Leu Gln Lys Ile Leu
325 330 335

<210> 63

<211> 472

<212> PRT

<213> Homo sapiens

<400> 63

Met Ala Leu Gly Leu Glu Gln Ala Glu Glu Gln Arg Leu Tyr Gln Gln
1 5 10 15

Thr Leu Leu Gln Asp Gly Leu Lys Asp Met Leu Asp His Gly Lys Phe
20 25 30

Leu Asp Cys Val Val Arg Ala Gly Glu Arg Glu Phe Pro Cys His Arg
35 40 45

Leu Val Leu Ala Ala Cys Ser Pro Tyr Phe Arg Ala Arg Phe Leu Ala
50 55 60

Glu Pro Glu Arg Ala Gly Glu Leu His Leu Glu Glu Val Ser Pro Asp
65 70 75 80

Val Val Ala Gln Val Leu His Tyr Leu Tyr Thr Ser Glu Ile Ala Leu
85 90 95

Asp Glu Ala Ser Val Gln Asp Leu Phe Ala Ala Ala His Arg Phe Gln
100 105 110

Ile Pro Ser Ile Phe Thr Ile Cys Val Ser Phe Leu Gln Lys Arg Leu
115 120 125

Cys Leu Ser Asn Cys Leu Ala Val Phe Arg Leu Gly Leu Leu Leu Asp
130 135 140

Cys Ala Arg Leu Ala Val Ala Ala Arg Asp Phe Ile Cys Ala His Phe
145 150 155 160

Thr Leu Val Ala Arg Asp Ala Asp Phe Leu Gly Leu Ser Ala Asp Glu
165 170 175

Leu Ile Ala Ile Ile Ser Ser Asp Gly Leu Asn Val Glu Lys Glu Glu
180 185 190

Ala Val Phe Glu Ala Val Met Arg Trp Ala Gly Ser Gly Asp Ala Glu
195 200 205

Ala Gln Ala Glu Arg Gln Arg Ala Leu Pro Thr Val Phe Glu Ser Val
210 215 220

Arg Cys Arg Leu Leu Pro Arg Ala Phe Leu Glu Ser Arg Val Glu Arg
225 230 235 240

His Pro Leu Val Arg Ala Gln Pro Glu Leu Leu Arg Lys Val Gln Met
245 250 255

Val Lys Asp Ala His Glu Gly Arg Ile Thr Thr Leu Arg Lys Lys Lys
260 265 270

Lys Gly Lys Asp Gly Ala Gly Ala Lys Glu Ala Asp Lys Gly Thr Ser
275 280 285

Lys Ala Lys Ala Glu Glu Asp Glu Glu Ala Glu Arg Ile Leu Pro Gly
290 295 300

Ile Leu Asn Asp Thr Leu Arg Phe Gly Met Phe Leu Gln Asp Leu Ile
305 310 315 320

Phe Met Ile Ser Glu Glu Gly Ala Val Ala Tyr Asp Pro Ala Ala Asn
325 330 335

Glu Cys Tyr Cys Ala Ser Leu Ser Asn Gln Val Pro Lys Asn His Val
340 345 350

Ser Leu Val Thr Lys Glu Asn Gln Val Phe Val Ala Gly Gly Leu Phe
355 360 365

Tyr Asn Glu Asp Asn Lys Glu Asp Pro Met Ser Ala Tyr Phe Leu Gln
370 375 380

Phe Asp His Leu Asp Ser Glu Trp Leu Gly Met Pro Pro Leu Pro Ser
385 390 395 400

Pro Arg Cys Leu Phe Gly Leu Gly Glu Ala Leu Asn Ser Ile Tyr Val
405 410 415

Val Gly Gly Arg Glu Ile Lys Asp Gly Glu Arg Cys Leu Asp Ser Val
420 425 430

Met Cys Tyr Asp Arg Leu Ser Phe Lys Trp Gly His Arg His Arg Ala
435 440 445

Asp Gln Phe Cys Arg Ser Val Gln His His Arg Gln Gln Val Gly Thr
450 455 460

Leu Arg Gly Leu Pro Thr Gly Ala
465 470

<210> 64
<211> 377
<212> PRT
<213> Homo sapiens

<400> 64

Met Leu Ser Val Pro His Gly Ile Ala Asn Glu Asp Ile Val Ser Gln
1 5 10 15

Asn	Pro	Gly	Glu	Leu	Ser	Cys	Lys	Arg	Gly	Asp	Val	Leu	Val	Met	Leu	20	25	30
Lys	Gln	Thr	Glu	Asn	Asn	Tyr	Leu	Glu	Cys	Gln	Lys	Gly	Glu	Asp	Thr	35	40	45
Gly	Arg	Val	His	Leu	Ser	Gln	Met	Lys	Ile	Ile	Thr	Pro	Leu	Asp	Glu	50	55	60
His	Leu	Arg	Ser	Arg	Pro	Asn	Asp	Pro	Ser	His	Ala	Gln	Lys	Pro	Val	65	70	75
Asp	Ser	Gly	Ala	Pro	His	Ala	Val	Val	Leu	His	Asp	Phe	Pro	Ala	Glu	85	90	95
Gln	Val	Asp	Asp	Leu	Asn	Leu	Thr	Ser	Gly	Glu	Ile	Val	Tyr	Leu	Leu	100	105	110
Glu	Lys	Ile	Asp	Thr	Asp	Trp	Tyr	Arg	Gly	Asn	Cys	Arg	Asn	Gln	Ile	115	120	125
Gly	Ile	Phe	Pro	Ala	Asn	Tyr	Val	Lys	Val	Ile	Ile	Asp	Ile	Pro	Glu	130	135	140
Gly	Gly	Asn	Gly	Lys	Arg	Glu	Cys	Val	Ser	Ser	His	Cys	Val	Lys	Gly	145	150	155
Ser	Arg	Cys	Val	Ala	Arg	Phe	Glu	Tyr	Ile	Gly	Glu	Gln	Lys	Asp	Glu	165	170	175
Leu	Ser	Phe	Ser	Glu	Gly	Glu	Ile	Ile	Ile	Leu	Lys	Glu	Tyr	Val	Asn	180	185	190
Glu	Glu	Trp	Ala	Arg	Gly	Glu	Val	Arg	Gly	Arg	Thr	Gly	Ile	Phe	Pro	195	200	205
Leu	Asn	Phe	Val	Glu	Pro	Val	Glu	Asp	Tyr	Pro	Thr	Ser	Gly	Ala	Asn	210	215	220
Val	Leu	Ser	Thr	Lys	Val	Pro	Leu	Lys	Thr	Lys	Lys	Glu	Asp	Ser	Gly	225	230	235
Ser	Asn	Ser	Gln	Val	Asn	Ser	Leu	Pro	Ala	Glu	Trp	Cys	Glu	Ala	Leu	245	250	255
His	Ser	Phe	Thr	Ala	Glu	Thr	Ser	Asp	Asp	Leu	Ser	Phe	Lys	Arg	Gly	260	265	270

Asp Arg Ile Gln Ile Leu Glu Arg Leu Asp Ser Asp Trp Cys Arg Gly
275 280 285

Arg Leu Gln Asp Arg Glu Gly Ile Phe Pro Ala Val Phe Val Arg Pro
290 295 300

Cys Pro Ala Glu Ala Lys Ser Met Leu Ala Ile Val Pro Lys Gly Arg
305 310 315 320

Lys Ala Lys Ala Leu Tyr Asp Phe Arg Gly Glu Asn Glu Asp Glu Leu
325 330 335

Ser Phe Lys Ala Gly Asp Ile Ile Thr Glu Leu Glu Ser Val Asp Asp
340 345 350

Asp Trp Met Ser Gly Glu Leu Met Gly Lys Ser Gly Ile Phe Pro Lys
355 360 365

Asn Tyr Ile Gln Phe Leu Gln Ile Ser
370 375

<210> 65
<211> 949
<212> PRT
<213> Homo sapiens

<400> 65

Met Asp Ile Ser Thr Arg Ser Lys Asp Pro Gly Ser Ala Glu Arg Thr
1 5 10 15

Ala Gln Lys Arg Lys Phe Pro Ser Pro Pro His Ser Ser Asn Gly His
20 25 30

Ser Pro Gln Asp Thr Ser Thr Ser Pro Ile Lys Lys Lys Lys Lys Pro
35 40 45

Gly Leu Leu Asn Ser Asn Asn Lys Glu Gln Ser Glu Leu Arg His Gly
50 55 60

Pro Phe Tyr Tyr Met Lys Gln Pro Leu Thr Thr Asp Pro Val Asp Val
65 70 75 80

Val Pro Gln Asp Gly Arg Asn Asp Phe Tyr Cys Trp Val Cys His Arg
85 90 95

Glu Gly Gln Val Leu Cys Cys Glu Leu Cys Pro Arg Val Tyr His Ala
100 105 110

Lys Cys Leu Arg Leu Thr Ser Glu Pro Glu Gly Asp Trp Phe Cys Pro
 115 120 125

Glu Cys Glu Lys Ile Thr Val Ala Glu Cys Ile Glu Thr Gln Ser Lys
 130 135 140

Ala Met Thr Met Leu Thr Ile Glu Gln Leu Ser Tyr Leu Leu Lys Phe
 145 150 155 160

Ala Ile Gln Lys Met Lys Gln Pro Gly Thr Asp Ala Phe Gln Lys Pro
 165 170 175

Val Pro Leu Glu Gln His Pro Asp Tyr Ala Glu Tyr Ile Phe His Pro
 180 185 190

Met Asp Leu Cys Thr Leu Glu Lys Asn Ala Lys Lys Lys Met Tyr Gly
 195 200 205

Cys Thr Glu Ala Phe Leu Ala Asp Ala Lys Trp Ile Leu His Asn Cys
 210 215 220

Ile Ile Tyr Asn Gly Gly Asn His Lys Leu Thr Gln Ile Ala Lys Val
 225 230 235 240

Val Ile Lys Ile Cys Glu His Glu Met Asn Glu Ile Glu Val Cys Pro
 245 250 255

Glu Cys Tyr Leu Ala Ala Cys Gln Lys Arg Asp Asn Trp Phe Cys Glu
 260 265 270

Pro Cys Ser Asn Pro His Pro Leu Val Trp Ala Lys Leu Lys Gly Phe
 275 280 285

Pro Phe Trp Pro Ala Lys Ala Leu Arg Asp Lys Asp Gly Gln Val Asp
 290 295 300

Ala Arg Phe Phe Gly Gln His Asp Arg Ala Trp Val Pro Ile Asn Asn
 305 310 315 320

Cys Tyr Leu Met Ser Lys Glu Ile Pro Phe Ser Val Lys Lys Thr Lys
 325 330 335

Ser Ile Phe Asn Ser Ala Met Gln Glu Met Glu Val Tyr Val Glu Asn
 340 345 350

Ile Arg Arg Lys Phe Gly Val Phe Asn Tyr Ser Pro Phe Arg Thr Pro
 355 360 365

Tyr Thr Pro Asn Ser Gln Tyr Gln Met Leu Leu Asp Pro Thr Asn Pro
370 375 380

Ser Ala Gly Thr Ala Lys Ile Asp Lys Gln Glu Lys Val Lys Leu Asn
385 390 395 400

Phe Asp Met Thr Ala Ser Pro Lys Ile Leu Met Ser Lys Pro Val Leu
405 410 415

Ser Gly Gly Thr Gly Arg Arg Ile Ser Leu Ser Asp Met Pro Arg Ser
420 425 430

Pro Met Ser Thr Asn Ser Ser Val His Thr Gly Ser Asp Val Glu Gln
435 440 445

Asp Ala Glu Lys Lys Ala Thr Ser Ser His Phe Ser Ala Ser Glu Glu
450 455 460

Ser Met Asp Phe Leu Asp Lys Ser Thr Ala Ser Pro Ala Ser Thr Lys
465 470 475 480

Thr Gly Gln Ala Gly Ser Leu Ser Gly Ser Pro Lys Pro Phe Ser Pro
485 490 495

Gln Leu Ser Ala Pro Ile Thr Thr Lys Thr Asp Lys Thr Ser Thr Thr
500 505 510

Gly Ser Ile Leu Asn Leu Asn Leu Asp Arg Ser Lys Ala Glu Met Asp
515 520 525

Leu Lys Glu Leu Ser Glu Ser Val Gln Gln Gln Ser Thr Pro Val Pro
530 535 540

Leu Ile Ser Pro Lys Arg Gln Ile Arg Ser Arg Phe Gln Leu Asn Leu
545 550 555 560

Asp Lys Thr Ile Glu Ser Cys Lys Ala Gln Leu Gly Ile Asn Glu Ile
565 570 575

Ser Glu Asp Val Tyr Thr Ala Val Glu His Ser Asp Ser Glu Asp Ser
580 585 590

Glu Lys Ser Asp Ser Ser Asp Ser Glu Tyr Ile Ser Asp Asp Glu Gln
595 600 605

Lys Ser Lys Asn Glu Pro Glu Asp Thr Glu Asp Lys Glu Gly Cys Gln
610 615 620

Met	Asp	Lys	Glu	Pro	Ser	Ala	Val	Lys	Lys	Lys	Pro	Lys	Pro	Thr	Asn	621	630	635	640
Pro	Val	Glu	Ile	Lys	Glu	Glu	Leu	Lys	Ser	Thr	Ser	Pro	Ala	Ser	Glu	645	650	655	
Lys	Ala	Asp	Pro	Gly	Ala	Val	Lys	Asp	Lys	Ala	Ser	Pro	Glu	Pro	Glu	660	665	670	
Lys	Asp	Phe	Ser	Glu	Lys	Ala	Lys	Pro	Ser	Pro	His	Pro	Ile	Lys	Asp	675	680	685	
Lys	Leu	Lys	Gly	Lys	Asp	Glu	Thr	Asp	Ser	Pro	Thr	Val	His	Leu	Gly	690	695	700	
Leu	Asp	Ser	Asp	Ser	Glu	Ser	Glu	Leu	Val	Ile	Asp	Leu	Gly	Glu	Asp	705	710	715	720
His	Ser	Gly	Arg	Glu	Gly	Arg	Lys	Asn	Lys	Lys	Glu	Pro	Lys	Glu	Pro	725	730	735	
Ser	Pro	Lys	Gln	Asp	Val	Val	Gly	Lys	Thr	Pro	Pro	Ser	Thr	Thr	Val	740	745	750	
Gly	Ser	His	Ser	Pro	Pro	Glu	Thr	Pro	Val	Leu	Thr	Arg	Ser	Ser	Ala	755	760	765	
Gln	Thr	Ser	Ala	Ala	Gly	Ala	Thr	Ala	Thr	Thr	Ser	Thr	Ser	Ser	Thr	770	775	780	
Val	Thr	Val	Thr	Ala	Pro	Ala	Pro	Ala	Ala	Thr	Gly	Ser	Pro	Val	Lys	785	790	795	800
Lys	Gln	Arg	Pro	Leu	Leu	Pro	Lys	Glu	Thr	Ala	Pro	Ala	Val	Gln	Arg	805	810	815	
Val	Val	Trp	Asn	Ser	Ser	Ser	Lys	Phe	Gln	Thr	Ser	Ser	Gln	Lys	Trp	820	825	830	
His	Met	Gln	Lys	Met	Gln	Arg	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Asn	835	840	845	
Gln	Gln	Gln	Gln	Pro	Gln	Ser	Ser	Gln	Gly	Thr	Arg	Tyr	Gln	Thr	Arg	850	855	860	
Gln	Ala	Val	Lys	Ala	Val	Gln	Gln	Lys	Glu	Ile	Thr	Gln	Ser	Pro	Ser	865	870	875	880

Thr Ser Thr Ile Thr Leu Val Thr Ser Thr Gln Ser Ser Pro Leu Val
885 890 895

Thr Ser Ser Gly Ser Met Ser Thr Leu Val Ser Ser Val Asn Ala Asp
900 905 910

Leu Pro Ile Ala Thr Ala Ser Ala Asp Val Ala Ala Asp Ile Ala Lys
915 920 925

Tyr Thr Ser Lys Val Asn Gly Cys Asn Lys Arg Asn Asn Asp Arg Asn
930 935 940

Ile Gln Arg Ser Phe
945

<210> 66
<211> 380
<212> PRT
<213> Homo sapiens

<400> 66

Met Asp Ser Gly Cys Trp Leu Phe Gly Gly Glu Phe Glu Asp Ser Val
1 5 10 15

Phe Glu Glu Arg Pro Glu Arg Arg Ser Gly Pro Pro Ala Ser Tyr Cys
20 25 30

Ala Lys Leu Cys Glu Pro Gln Trp Phe Tyr Glu Glu Thr Glu Ser Ser
35 40 45

Asp Asp Val Glu Val Leu Thr Leu Lys Lys Phe Lys Gly Asp Leu Ala
50 55 60

Tyr Arg Arg Gln Glu Tyr Gln Lys Ala Leu Gln Glu Tyr Ser Ser Ile
65 70 75 80

Ser Glu Lys Leu Ser Ser Thr Asn Phe Ala Met Lys Arg Asp Val Gln
85 90 95

Glu Gly Gln Ala Arg Cys Leu Ala His Leu Gly Arg His Met Glu Ala
100 105 110

Leu Glu Ile Ala Ala Asn Leu Glu Asn Lys Ala Thr Asn Thr Asp His
115 120 125

Leu Thr Thr Val Leu Tyr Leu Gln Leu Ala Ile Cys Ser Ser Leu Gln
130 135 140

Asn Leu Glu Lys Thr Ile Phe Cys Leu Gln Lys Leu Ile Ser Leu His

145		150		155		160
Pro Phe Asn Pro Trp Asn Trp Gly Lys Leu Ala Glu Ala Tyr Leu Asn						
		165		170		175
Leu Gly Pro Ala Leu Ser Ala Ala Leu Ala Ser Ser Gln Lys Gln His						
		180		185		190
Ser Phe Thr Ser Ser Asp Lys Thr Ile Lys Ser Phe Phe Pro His Ser						
		195		200		205
Gly Lys Asp Cys Leu Leu Cys Phe Pro Glu Thr Leu Pro Glu Ser Ser						
		210		215		220
Leu Phe Ser Val Glu Ala Asn Ser Ser Asn Ser Gln Lys Asn Glu Lys						
225		230		235		240
Ala Leu Thr Asn Ile Gln Asn Cys Met Ala Glu Lys Arg Glu Thr Val						
		245		250		255
Leu Ile Glu Thr Gln Leu Lys Ala Cys Ala Ser Phe Ile Arg Thr Arg						
		260		265		270
Leu Leu Leu Gln Phe Thr Gln Pro Gln Gln Thr Ser Phe Ala Leu Glu						
		275		280		285
Arg Asn Leu Arg Thr Gln Gln Glu Ile Glu Asp Lys Met Lys Gly Phe						
		290		295		300
Ser Phe Lys Glu Asp Thr Leu Leu Leu Ile Ala Glu Val Met Gly Glu						
305		310		315		320
Asp Ile Pro Glu Lys Ile Lys Asp Glu Val His Pro Glu Val Lys Cys						
		325		330		335
Val Gly Ser Val Ala Leu Thr Ala Leu Val Thr Val Ser Ser Glu Glu						
		340		345		350
Phe Glu Asp Lys Trp Phe Arg Lys Ile Lys Asp His Phe Cys Pro Phe						
		355		360		365
Glu Asn Gln Phe His Thr Glu Ile Gln Ile Leu Ala						
		370		375		380

<210> 67
 <211> 518
 <212> PRT
 <213> Homo sapiens

<400> 67

Met Lys Ser Arg Phe Ser Thr Ile Asp Leu Arg Ala Val Leu Ala Glu
1 5 10 15

Leu Asn Ala Ser Leu Leu Gly Met Arg Val Asn Asn Val Tyr Asp Val
20 25 30

Asp Asn Lys Thr Tyr Leu Ile Arg Leu Gln Lys Pro Asp Phe Lys Ala
35 40 45

Thr Leu Leu Leu Glu Ser Gly Ile Arg Ile His Thr Thr Glu Phe Glu
50 55 60

Trp Pro Lys Asn Met Met Pro Ser Ser Phe Ala Met Lys Cys Arg Lys
65 70 75 80

His Leu Lys Ser Arg Arg Leu Val Ser Ala Lys Gln Leu Gly Val Asp
85 90 95

Arg Ile Val Asp Phe Gln Phe Gly Ser Asp Glu Ala Ala Tyr His Leu
100 105 110

Ile Ile Glu Leu Tyr Asp Arg Gly Asn Ile Val Leu Thr Asp Tyr Glu
115 120 125

Tyr Val Ile Leu Asn Ile Leu Arg Phe Arg Thr Asp Glu Ala Asp Asp
130 135 140

Val Lys Phe Ala Val Arg Glu Arg Tyr Pro Leu Asp His Ala Arg Ala
145 150 155 160

Ala Glu Pro Leu Leu Thr Leu Glu Arg Leu Thr Glu Ile Val Ala Ser
165 170 175

Ala Pro Lys Gly Glu Leu Leu Lys Arg Val Leu Asn Pro Leu Leu Pro
180 185 190

Tyr Gly Pro Ala Leu Ile Glu His Cys Leu Leu Glu Asn Gly Phe Ser
195 200 205

Gly Asn Val Lys Val Asp Glu Lys Leu Glu Thr Lys Asp Ile Glu Lys
210 215 220

Val Leu Val Ser Leu Gln Lys Ala Glu Asp Tyr Met Lys Thr Thr Ser
225 230 235 240

Asn Phe Ser Gly Lys Gly Tyr Ile Ile Gln Lys Arg Glu Ile Lys Pro
245 250 255

Cys Leu Glu Ala Asp Lys Pro Val Glu Asp Ile Leu Thr Tyr Glu Glu
260 265 270

Phe His Pro Phe Leu Phe Ser Gln His Ser Gln Cys Pro Tyr Ile Glu
275 280 285

Phe Glu Ser Phe Asp Lys Ala Val Asp Glu Phe Tyr Ser Lys Ile Glu
290 295 300

Gly Gln Lys Ile Asp Leu Lys Ala Leu Gln Gln Glu Lys Gln Ala Leu
305 310 315 320

Lys Lys Leu Asp Asn Val Arg Lys Asp His Glu Asn Arg Leu Glu Ala
325 330 335

Leu Gln Gln Ala Gln Glu Ile Asp Lys Leu Lys Gly Glu Leu Ile Glu
340 345 350

Met Asn Leu Gln Ile Val Asp Arg Ala Ile Gln Val Val Arg Ser Ala
355 360 365

Leu Ala Asn Gln Ile Asp Trp Thr Glu Ile Gly Leu Ile Val Lys Glu
370 375 380

Ala Gln Ala Gln Gly Asp Pro Val Ala Ser Ala Ile Lys Glu Leu Lys
385 390 395 400

Leu Gln Thr Asn His Val Thr Met Leu Leu Arg Asn Pro Tyr Leu Leu
405 410 415

Ser Glu Glu Glu Asp Asp Asp Val Asp Gly Asp Val Asn Val Glu Lys
420 425 430

Asn Glu Thr Glu Pro Pro Lys Gly Lys Lys Lys Lys Gln Lys Asn Lys
435 440 445

Gln Leu Gln Lys Pro Gln Lys Asn Lys Pro Leu Leu Val Asp Val Asp
450 455 460

Leu Ser Leu Ser Ala Tyr Ala Asn Ala Lys Lys Tyr Tyr Asp His Lys
465 470 475 480

Arg Tyr Ala Ala Lys Lys Thr Gln Lys Thr Val Glu Ala Ala Glu Lys
485 490 495

Ala Phe Lys Ser Ala Glu Lys Lys Thr Lys Gln Thr Leu Lys Glu Val
500 505 510

Gln Thr Val Thr Ser Ile
515

<210> 68
<211> 362
<212> PRT
<213> Homo sapiens

<400> 68

Met Thr Gln Val Asp Gln Glu Asp Ile Thr Leu Gln Ser Gly Arg Asp
1 5 10 15

Glu Leu Asn Glu Glu Leu Ile Gln Glu Glu Ser Ser Glu Asp Glu Gly
20 25 30

Glu Tyr Glu Glu Val Arg Lys Asp Gln Asp Ser Val Gly Glu Met Lys
35 40 45

Asp Glu Gly Glu Glu Thr Leu Asn Tyr Pro Asp Thr Thr Ile Asp Leu
50 55 60

Ser His Leu Gln Pro Gln Arg Ser Ile Gln Lys Leu Ala Ser Lys Glu
65 70 75 80

Glu Ser Ser Asn Ser Ser Asp Ser Lys Ser Gln Ser Arg Arg His Leu
85 90 95

Ser Ala Lys Glu Arg Arg Glu Met Lys Lys Lys Lys Leu Pro Ser Asp
100 105 110

Ser Gly Asp Leu Glu Ala Leu Glu Gly Lys Asp Lys Glu Lys Glu Ser
115 120 125

Thr Val His Ile Glu Thr His Gln Asn Thr Ser Lys Asn Val Ala Ala
130 135 140

Val Gln Pro Met Lys Arg Gly Gln Lys Ser Lys Met Lys Lys Met Lys
145 150 155 160

Glu Lys Tyr Lys Asp Gln Asp Glu Glu Asp Arg Glu Leu Ile Met Lys
165 170 175

Leu Leu Gly Ser Ala Gly Ser Asn Lys Glu Glu Lys Gly Lys Lys Gly
180 185 190

Lys Lys Gly Lys Thr Lys Asp Glu Pro Val Lys Lys Gln Pro Gln Lys
195 200 205

Pro Arg Gly Gly Gln Arg Val Ser Asp Asn Ile Lys Lys Glu Thr Pro
210 215 220

Phe Leu Glu Val Ile Thr His Glu Leu Gln Asp Phe Ala Val Asp Asp
225 230 235 240

Pro His Asp Asp Lys Glu Glu Gln Asp Leu Asp Gln Gln Gly Asn Glu
245 250 255

Glu Asn Leu Phe Asp Ser Leu Thr Gly Gln Pro His Pro Glu Asp Val
260 265 270

Leu Leu Phe Ala Ile Pro Ile Cys Ala Pro Tyr Thr Thr Met Thr Asn
275 280 285

Tyr Lys Tyr Lys Val Lys Leu Thr Pro Gly Val Gln Lys Lys Gly Lys
290 295 300

Ala Ala Lys Thr Ala Leu Asn Ser Phe Met His Ser Lys Glu Ala Thr
305 310 315 320

Ala Arg Glu Lys Asp Leu Phe Arg Ser Val Lys Asp Thr Asp Leu Ser
325 330 335

Arg Asn Ile Pro Gly Lys Val Lys Ser Val Cys Thr Gln Ser Ser Glu
340 345 350

Arg Lys Lys Glu Ile Ala Glu Met Lys Phe
355 360

<210> 69
<211> 634
<212> PRT
<213> Homo sapiens

<400> 69

Met Glu Ser Gly Arg Gly Ser Ser Thr Pro Pro Gly Pro Ile Ala Ala
1 5 10 15

Leu Gly Met Pro Asp Thr Gly Pro Gly Ser Ser Ser Leu Gly Lys Leu
20 25 30

Gln Ala Leu Pro Val Gly Pro Arg Ala His Cys Gly Asp Pro Val Ser
35 40 45

Leu Ala Ala Ala Gly Asp Gly Ser Pro Asp Ile Gly Pro Thr Gly Glu
50 55 60

Leu Ser Gly Ser Leu Lys Ile Pro Asn Arg Asp Ser Gly Ile Asp Ser
 65 70 75 80

Pro Ser Ser Ser Val Ala Gly Glu Asn Phe Pro Cys Glu Glu Gly Leu
 85 90 95

Glu Ala Gly Pro Ser Pro Thr Val Leu Gly Ala His Ala Glu Met Ala
 100 105 110

Leu Asp Ser Gln Val Pro Lys Val Thr Pro Gln Glu Glu Ala Asp Ser
 115 120 125

Asp Val Gly Glu Glu Pro Asp Ser Glu Asn Thr Pro Gln Lys Ala Asp
 130 135 140

Lys Asp Ala Gly Leu Ala Gln His Ser Gly Pro Gln Lys Leu Leu His
 145 150 155 160

Ile Ala Gln Glu Leu Leu His Thr Glu Glu Thr Tyr Val Lys Arg Leu
 165 170 175

His Leu Leu Asp Gln Val Phe Cys Thr Arg Leu Thr Asp Ala Gly Ile
 180 185 190

Pro Pro Glu Val Ile Met Gly Ile Phe Ser Asn Ile Ser Ser Ile His
 195 200 205

Arg Phe His Gly Gln Phe Leu Leu Pro Glu Leu Lys Thr Arg Ile Thr
 210 215 220

Glu Glu Trp Asp Thr Asn Pro Arg Leu Gly Asp Ile Leu Gln Lys Leu
 225 230 235 240

Ala Pro Phe Leu Lys Met Tyr Gly Glu Tyr Val Lys Asn Phe Asp Arg
 245 250 255

Ala Val Gly Leu Val Ser Thr Trp Thr Gln Arg Ser Pro Leu Phe Lys
 260 265 270

Asp Val Val His Ser Ile Gln Lys Gln Glu Val Cys Gly Asn Leu Thr
 275 280 285

Leu Gln His His Met Leu Glu Pro Val Gln Arg Val Pro Arg Tyr Glu
 290 295 300

Leu Leu Leu Lys Asp Tyr Leu Lys Arg Leu Pro Gln Asp Ala Pro Asp
 305 310 315 320

Arg Lys Asp Ala Glu Arg Ser Leu Glu Leu Ile Ser Thr Ala Ala Asn
 325 330 335

His Ser Asn Ala Ala Ile Arg Lys Val Glu Lys Met His Lys Leu Leu
 340 345 350

Glu Val Tyr Glu Gln Leu Gly Gly Glu Glu Asp Ile Val Asn Pro Ala
 355 360 365

Asn Glu Leu Ile Lys Glu Gly Gln Ile Gln Lys Leu Ser Ala Lys Asn
 370 375 380

Gly Thr Pro Gln Asp Arg His Leu Phe Leu Phe Asn Ser Met Ile Leu
 385 390 395 400

Tyr Cys Val Pro Lys Leu Arg Leu Met Gly Gln Lys Phe Ser Val Arg
 405 410 415

Glu Lys Met Asp Ile Ser Gly Leu Gln Val Gln Asp Ile Val Lys Pro
 420 425 430

Asn Thr Ala His Thr Phe Ile Ile Thr Gly Arg Lys Arg Ser Leu Glu
 435 440 445

Leu Gln Thr Arg Thr Glu Glu Glu Lys Lys Glu Trp Ile Gln Ile Ile
 450 455 460

Gln Ala Thr Ile Glu Lys His Lys Gln Asn Ser Glu Thr Phe Lys Ala
 465 470 475 480

Phe Gly Gly Ala Phe Ser Gln Asp Glu Asp Pro Ser Leu Ser Pro Asp
 485 490 495

Met Pro Ile Thr Ser Thr Ser Pro Val Glu Pro Val Val Thr Thr Glu
 500 505 510

Gly Ser Ser Gly Ala Ala Gly Leu Glu Pro Arg Lys Leu Ser Ser Lys
 515 520 525

Thr Arg Arg Asp Lys Glu Lys Gln Ser Cys Lys Ser Cys Gly Glu Thr
 530 535 540

Phe Asn Ser Ile Thr Lys Arg Arg His His Cys Lys Leu Cys Gly Ala
 545 550 555 560

Val Ile Cys Gly Lys Cys Ser Glu Phe Lys Ala Glu Asn Ser Arg Gln
 565 570 575

Ser Arg Val Cys Arg Asp Cys Phe Leu Thr Gln Pro Val Ala Pro Glu
 580 585 590

Ser Thr Glu Val Gly Ala Pro Ser Ser Cys Ser Pro Pro Gly Gly Ala
 595 600 605

Ala Glu Pro Pro Asp Thr Cys Ser Cys Ala Pro Ala Ala Pro Ala Ala
 610 615 620

Ser Ala Phe Gly Val Ser Leu Gly Pro Gly
 625 630

<210> 70
 <211> 284
 <212> PRT
 <213> Homo sapiens

<400> 70

Met Asp Ala Ile Lys Lys Lys Met Gln Met Leu Lys Leu Asp Lys Glu
 1 5 10 15

Asn Ala Leu Asp Arg Ala Glu Gln Ala Glu Ala Asp Lys Lys Ala Ala
 20 25 30

Glu Asp Arg Ser Lys Gln Leu Glu Asp Glu Leu Val Ser Leu Gln Lys
 35 40 45

Lys Leu Lys Gly Thr Glu Asp Glu Leu Asp Lys Tyr Ser Glu Ala Leu
 50 55 60

Lys Asp Ala Gln Glu Lys Leu Glu Leu Ala Glu Lys Lys Ala Thr Asp
 65 70 75 80

Ala Glu Ala Asp Val Ala Ser Leu Asn Arg Arg Ile Gln Leu Val Glu
 85 90 95

Glu Glu Leu Asp Arg Ala Gln Glu Arg Leu Ala Thr Ala Leu Gln Lys
 100 105 110

Leu Glu Glu Ala Glu Lys Ala Ala Asp Glu Ser Glu Arg Gly Met Lys
 115 120 125

Val Ile Glu Ser Arg Ala Gln Lys Asp Glu Glu Lys Met Glu Ile Gln
 130 135 140

Glu Ile Gln Leu Lys Glu Ala Lys His Ile Ala Glu Asp Ala Asp Arg
 145 150 155 160

Lys Tyr Glu Glu Val Ala Arg Lys Leu Val Ile Ile Glu Ser Asp Leu

165

170

175

Glu Arg Ala Glu Glu Arg Ala Glu Leu Ser Glu Gly Gln Val Arg Gln
180 185 190

Leu Glu Glu Gln Leu Arg Ile Met Asp Gln Thr Leu Lys Ala Leu Met
195 200 205

Ala Ala Glu Asp Lys Tyr Ser Gln Lys Glu Asp Arg Tyr Glu Glu Glu
210 215 220

Ile Lys Val Leu Ser Asp Lys Leu Lys Glu Ala Glu Thr Arg Ala Glu
225 230 235 240

Phe Ala Glu Arg Ser Val Thr Lys Leu Glu Lys Ser Ile Asp Asp Leu
245 250 255

Glu Glu Lys Val Ala His Ala Lys Glu Glu Asn Leu Ser Met His Gln
260 265 270

Met Leu Asp Gln Thr Leu Leu Glu Leu Asn Asn Met
275 280

<210> 71
<211> 683
<212> PRT
<213> Homo sapiens

<400> 71

Met Thr Ala Val His Gly Arg Phe Thr Arg Ser Gln Thr Leu Ile Gln
1 5 10 15

Asn Gly Gly Glu Ile Asp Cys Val Asp Lys Asp Gly Asn Thr Pro Leu
20 25 30

His Val Ala Ala Arg Tyr Gly His Glu Leu Leu Ile Asn Thr Leu Ile
35 40 45

Thr Ser Gly Ala Asp Thr Ala Lys Cys Gly Ile His Ser Met Phe Pro
50 55 60

Leu His Leu Ala Ala Leu Asn Ala His Ser Asp Cys Cys Arg Lys Leu
65 70 75 80

Leu Ser Ser Gly Gln Lys Tyr Ser Ile Val Ser Leu Phe Ser Asn Glu
85 90 95

His Val Leu Ser Ala Gly Phe Glu Ile Asp Thr Pro Asp Lys Phe Gly
100 105 110

Arg Thr Cys Leu His Ala Ala Ala Gly Gly Asn Val Glu Cys Ile
115 120 125

Lys Leu Leu Gln Ser Ser Gly Ala Asp Phe His Lys Lys Asp Lys Cys
130 135 140

Gly Arg Thr Pro Leu His Tyr Ala Ala Ala Asn Cys His Phe His Cys
145 150 155 160

Ile Glu Thr Leu Val Thr Thr Gly Ala Asn Val Asn Glu Thr Asp Asp
165 170 175

Trp Gly Arg Thr Ala Leu His Tyr Ala Ala Ala Ser Asp Met Asp Arg
180 185 190

Asn Lys Thr Ile Leu Gly Asn Ala His Asp Asn Ser Glu Glu Leu Glu
195 200 205

Arg Ala Arg Glu Leu Lys Glu Lys Glu Ala Thr Leu Cys Leu Glu Phe
210 215 220

Leu Leu Gln Asn Asp Ala Asn Pro Ser Ile Arg Asp Lys Glu Gly Tyr
225 230 235 240

Asn Ser Ile His Tyr Ala Ala Ala Tyr Gly His Arg Gln Cys Leu Glu
245 250 255

Leu Leu Leu Glu Arg Thr Asn Ser Gly Phe Glu Glu Ser Asp Ser Gly
260 265 270

Ala Thr Lys Ser Pro Leu His Leu Ala Ala Tyr Asn Gly His His Gln
275 280 285

Ala Leu Glu Val Leu Leu Gln Ser Leu Val Asp Leu Asp Ile Arg Asp
290 295 300

Glu Lys Gly Arg Thr Ala Leu Asp Leu Ala Ala Phe Lys Gly His Thr
305 310 315 320

Glu Cys Val Glu Ala Leu Ile Asn Gln Gly Ala Ser Ile Phe Val Lys
325 330 335

Asp Asn Val Thr Lys Arg Thr Pro Leu His Ala Ser Val Ile Asn Gly
340 345 350

His Thr Leu Cys Leu Arg Leu Leu Leu Glu Ile Ala Asp Asn Pro Glu
355 360 365

Ala Val Asp Val Lys Asp Ala Lys Gly Gln Thr Pro Leu Met Leu Ala
370 375 380

Val Ala Tyr Gly His Ile Asp Ala Val Ser Leu Leu Leu Glu Lys Glu
385 390 395 400

Ala Asn Val Asp Thr Val Asp Ile Leu Gly Cys Thr Ala Leu His Arg
405 410 415

Gly Ile Met Thr Gly His Glu Glu Cys Val Gln Met Leu Leu Glu Gln
420 425 430

Glu Val Ser Ile Leu Cys Lys Asp Ser Arg Gly Arg Thr Pro Leu His
435 440 445

Tyr Ala Ala Ala Arg Gly His Ala Thr Trp Leu Ser Glu Leu Leu Gln
450 455 460

Met Ala Leu Ser Glu Glu Asp Cys Cys Phe Lys Asp Asn Gln Gly Tyr
465 470 475 480

Thr Pro Leu His Trp Ala Cys Tyr Asn Gly Asn Glu Asn Cys Ile Glu
485 490 495

Val Leu Leu Glu Gln Lys Cys Phe Arg Lys Phe Ile Gly Asn Pro Phe
500 505 510

Thr Pro Leu His Cys Ala Ile Ile Asn Asp His Gly Asn Cys Ala Ser
515 520 525

Leu Leu Leu Gly Ala Ile Asp Ser Ser Ile Val Ser Cys Arg Asp Asp
530 535 540

Lys Gly Arg Thr Pro Leu His Ala Ala Ala Phe Ala Asp His Val Glu
545 550 555 560

Cys Leu Gln Leu Leu Leu Arg His Ser Ala Pro Val Asn Ala Val Asp
565 570 575

Asn Ser Gly Lys Thr Ala Leu Met Met Ala Ala Glu Asn Gly Gln Ala
580 585 590

Gly Ala Val Asp Ile Leu Val Asn Ser Ala Gln Ala Asp Leu Thr Val
595 600 605

Lys Asp Lys Asp Leu Asn Thr Pro Leu His Leu Ala Cys Ser Lys Gly
610 615 620

His Glu Lys Cys Ala Leu Leu Ile Leu Asp Lys Ile Gln Asp Glu Ser
 625 630 635 640

Leu Ile Asn Glu Lys Asn Asn Ala Leu Gln Thr Pro Leu His Val Ala
 645 650 655

Ala Arg Asn Gly Leu Lys Val Val Val Glu Glu Leu Leu Ala Lys Gly
 660 665 670

Ala Cys Val Leu Ala Val Asp Glu Asn Gly Cys
 675 680

<210> 72
 <211> 547
 <212> PRT
 <213> Homo sapiens

<400> 72

Met Ala Ala Val Ser Leu Arg Leu Gly Asp Leu Val Trp Gly Lys Leu
 1 5 10 15

Gly Arg Tyr Pro Pro Trp Pro Gly Lys Ile Val Asn Pro Pro Lys Asp
 20 25 30

Leu Lys Lys Pro Arg Gly Lys Lys Cys Phe Phe Val Lys Phe Phe Gly
 35 40 45

Thr Glu Asp His Ala Trp Ile Lys Val Glu Gln Leu Lys Pro Tyr His
 50 55 60

Ala His Lys Glu Glu Met Ile Lys Ile Asn Lys Gly Lys Arg Phe Gln
 65 70 75 80

Gln Ala Val Asp Ala Val Glu Glu Phe Leu Arg Arg Ala Lys Gly Lys
 85 90 95

Asp Gln Thr Ser Ser His Asn Ser Ser Asp Asp Lys Asn Arg Arg Asn
 100 105 110

Ser Ser Glu Glu Arg Ser Arg Pro Asn Ser Gly Asp Glu Lys Arg Lys
 115 120 125

Leu Ser Leu Ser Glu Gly Lys Val Lys Lys Asn Met Gly Glu Gly Lys
 130 135 140

Lys Arg Val Ser Ser Gly Ser Ser Glu Arg Gly Ser Lys Ser Pro Leu
 145 150 155 160

Lys Arg Ala Gln Glu Gln Ser Pro Arg Lys Arg Gly Arg Pro Pro Lys
 165 170 175

Asp Glu Lys Asp Leu Thr Ile Pro Glu Ser Ser Thr Val Lys Gly Met
 180 185 190

Met Ala Gly Pro Met Ala Ala Phe Lys Trp Gln Pro Thr Ala Ser Glu
 195 200 205

Pro Val Lys Asp Ala Asp Pro His Phe His His Phe Leu Leu Ser Gln
 210 215 220

Thr Glu Lys Pro Ala Val Cys Tyr Gln Ala Ile Thr Lys Lys Leu Lys
 225 230 235 240

Ile Cys Glu Glu Glu Thr Gly Ser Thr Ser Ile Gln Ala Ala Asp Ser
 245 250 255

Thr Ala Val Asn Gly Ser Ile Thr Pro Thr Asp Lys Lys Ile Gly Phe
 260 265 270

Leu Gly Leu Gly Leu Met Gly Ser Gly Ile Val Ser Asn Leu Leu Lys
 275 280 285

Met Gly His Thr Val Thr Val Trp Asn Arg Thr Ala Glu Lys Glu Gly
 290 295 300

Ala Arg Leu Gly Arg Thr Pro Ala Glu Val Val Ser Thr Cys Asp Ile
 305 310 315 320

Thr Phe Ala Cys Val Ser Asp Pro Lys Ala Ala Lys Asp Leu Val Leu
 325 330 335

Gly Pro Ser Gly Val Leu Gln Gly Ile Arg Pro Gly Lys Cys Tyr Val
 340 345 350

Asp Met Ser Thr Val Asp Ala Asp Thr Val Thr Glu Leu Ala Gln Val
 355 360 365

Ile Val Ser Arg Gly Gly Arg Phe Leu Glu Ala Pro Val Ser Gly Asn
 370 375 380

Gln Gln Leu Ser Asn Asp Gly Met Leu Val Ile Leu Ala Ala Gly Asp
 385 390 395 400

Arg Gly Leu Tyr Glu Asp Cys Ser Ser Cys Phe Gln Ala Met Gly Lys
 405 410 415

Thr Ser Phe Phe Leu Gly Glu Val Gly Asn Ala Ala Lys Met Met Leu
420 425 430

Ile Val Asn Met Val Gln Gly Ser Phe Met Ala Thr Ile Ala Glu Gly
435 440 445

Leu Thr Leu Ala Gln Val Thr Gly Gln Ser Gln Gln Thr Leu Leu Asp
450 455 460

Ile Leu Asn Gln Gly Gln Leu Ala Ser Ile Phe Leu Asp Gln Lys Cys
465 470 475 480

Gln Asn Ile Leu Gln Gly Asn Phe Lys Pro Asp Phe Tyr Leu Lys Tyr
485 490 495

Ile Gln Lys Asp Leu Arg Leu Ala Ile Ala Leu Gly Asp Ala Val Asn
500 505 510

His Pro Thr Pro Met Ala Ala Ala Ala Asn Glu Val Tyr Lys Arg Ala
515 520 525

Lys Ala Leu Asp Gln Ser Asp Asn Asp Met Ser Ala Val Tyr Arg Ala
530 535 540

Tyr Ile His
545

<210> 73
<211> 638
<212> PRT
<213> Homo sapiens

<400> 73

Met Ser Leu Gly Gln Ser Ala Cys Leu Phe Leu Ser Ile Ala Arg Ser
1 5 10 15

Arg Ser Val Met Thr Gly Glu Gln Met Ala Ala Phe His Pro Ser Ser
20 25 30

Thr Pro Asn Pro Leu Glu Arg Pro Ile Lys Met Gly Trp Leu Lys Lys
35 40 45

Gln Arg Ser Ile Val Lys Asn Trp Gln Gln Arg Tyr Phe Val Leu Arg
50 55 60

Ala Gln Gln Leu Tyr Tyr Tyr Lys Asp Glu Glu Asp Thr Lys Pro Gln
65 70 75 80

Gly Cys Met Tyr Leu Pro Gly Cys Thr Ile Lys Glu Ile Ala Thr Asn
 85 90 95

Pro Glu Glu Ala Gly Lys Phe Val Phe Glu Ile Ile Pro Ala Ser Trp
 100 105 110

Asp Gln Asn Arg Met Gly Gln Asp Ser Tyr Val Leu Met Ala Ser Ser
 115 120 125

Gln Ala Glu Met Glu Glu Trp Val Lys Phe Leu Arg Arg Val Ala Gly
 130 135 140

Thr Pro Cys Gly Val Phe Gly Gln Arg Leu Asp Glu Thr Val Ala Tyr
 145 150 155 160

Glu Gln Lys Phe Gly Pro His Leu Val Pro Ile Leu Val Glu Lys Cys
 165 170 175

Ala Glu Phe Ile Leu Glu His Gly Arg Asn Glu Glu Gly Ile Phe Arg
 180 185 190

Leu Pro Gly Gln Asp Asn Leu Val Lys Gln Leu Arg Asp Ala Phe Asp
 195 200 205

Ala Gly Glu Arg Pro Ser Phe Asp Arg Asp Thr Asp Val His Thr Val
 210 215 220

Ala Ser Leu Leu Lys Leu Tyr Leu Arg Asp Leu Pro Glu Pro Val Val
 225 230 235 240

Pro Trp Ser Gln Tyr Glu Gly Phe Leu Leu Cys Gly Gln Leu Thr Asn
 245 250 255

Ala Asp Glu Ala Lys Ala Gln Gln Glu Leu Met Lys Gln Leu Ser Ile
 260 265 270

Leu Pro Arg Asp Asn Tyr Ser Leu Leu Ser Tyr Ile Cys Arg Phe Leu
 275 280 285

His Glu Ile Gln Leu Asn Cys Ala Val Asn Lys Met Ser Val Asp Asn
 290 295 300

Leu Ala Thr Val Ile Gly Val Asn Leu Ile Arg Ser Lys Val Glu Asp
 305 310 315 320

Pro Ala Val Ile Met Arg Gly Thr Pro Gln Ile Gln Arg Val Met Thr
 325 330 335

Met Met Ile Arg Asp His Glu Val Leu Phe Pro Lys Ser Lys Asp Ile
340 345 350

Pro Leu Ser Pro Pro Ala Gln Lys Asn Asp Pro Lys Lys Ala Pro Val
355 360 365

Ala Arg Ser Ser Val Gly Trp Asp Ala Thr Glu Asp Leu Arg Ile Ser
370 375 380

Arg Thr Asp Ser Phe Ser Ser Met Thr Ser Asp Ser Asp Thr Thr Ser
385 390 395 400

Pro Thr Gly Gln Gln Pro Ser Asp Ala Phe Pro Glu Asp Ser Ser Lys
405 410 415

Val Pro Arg Glu Lys Pro Gly Asp Trp Lys Met Gln Ser Arg Lys Arg
420 425 430

Thr Gln Thr Leu Pro Asn Arg Lys Cys Phe Leu Thr Ser Ala Phe Gln
435 440 445

Gly Ala Asn Ser Ser Lys Met Glu Ile Phe Lys Asn Glu Phe Trp Ser
450 455 460

Pro Ser Ser Glu Ala Lys Ala Gly Glu Gly His Arg Arg Thr Met Ser
465 470 475 480

Gln Asp Leu Arg Gln Leu Ser Asp Ser Gln Arg Thr Ser Thr Tyr Asp
485 490 495

Asn Val Pro Ser Leu Pro Gly Ser Pro Gly Glu Glu Ala Ser Ala Leu
500 505 510

Ser Ser Gln Ala Cys Asp Ser Lys Gly Asp Thr Leu Ala Ser Pro Asn
515 520 525

Ser Glu Thr Gly Pro Gly Lys Lys Asn Ser Gly Glu Glu Glu Ile Asp
530 535 540

Ser Leu Gln Arg Met Val Gln Glu Leu Arg Lys Glu Ile Glu Thr Gln
545 550 555 560

Lys Gln Met Tyr Glu Glu Gln Ile Lys Asn Leu Glu Lys Glu Asn Tyr
565 570 575

Asp Val Trp Ala Lys Val Val Arg Leu Asn Glu Glu Leu Glu Lys Glu
580 585 590

Lys Lys Lys Ser Ala Ala Leu Glu Ile Ser Leu Arg Asn Met Glu Arg
 595 600 605

Ser Arg Glu Asp Val Glu Lys Arg Asn Lys Ala Leu Glu Glu Glu Val
 610 615 620

Lys Glu Phe Val Lys Ser Met Lys Glu Pro Lys Thr Glu Ala
 625 630 635

<210> 74
 <211> 239
 <212> PRT
 <213> Homo sapiens

<400> 74

Met His Gln Thr Tyr Ser Arg His Cys Arg Pro Glu Glu Ser Thr Phe
 1 5 10 15

Ser Ala Ala Met Thr Thr Met Gln Gly Met Glu Gln Ala Met Pro Gly
 20 25 30

Ala Gly Pro Gly Val Pro Gln Leu Gly Asn Met Ala Val Ile His Ser
 35 40 45

His Leu Trp Lys Gly Leu Gln Glu Lys Phe Leu Lys Gly Glu Pro Lys
 50 55 60

Val Leu Gly Val Val Gln Ile Leu Thr Ala Leu Met Ser Leu Ser Met
 65 70 75 80

Gly Ile Thr Met Met Cys Met Ala Ser Asn Thr Tyr Gly Ser Asn Pro
 85 90 95

Ile Ser Val Tyr Ile Gly Tyr Thr Ile Trp Gly Ser Val Met Phe Ile
 100 105 110

Ile Ser Gly Ser Leu Ser Ile Ala Ala Gly Ile Arg Thr Thr Lys Gly
 115 120 125

Leu Val Arg Gly Ser Leu Gly Met Asn Ile Thr Ser Ser Val Leu Ala
 130 135 140

Ala Ser Gly Ile Leu Ile Asn Thr Phe Ser Leu Ala Phe Tyr Ser Phe
 145 150 155 160

His His Pro Tyr Cys Asn Tyr Tyr Gly Asn Ser Asn Asn Cys His Gly
 165 170 175

Thr Met Ser Ile Leu Met Gly Leu Asp Gly Met Val Leu Leu Leu Ser

180

185

190

Val Leu Glu Phe Cys Ile Ala Val Ser Leu Ser Ala Phe Gly Cys Lys
 195 200 205

Val Leu Cys Cys Thr Pro Gly Gly Val Val Leu Ile Leu Pro Ser His
 210 215 220

Ser His Met Ala Glu Thr Ala Ser Pro Thr Pro Leu Asn Glu Val
 225 230 235

<210> 75
 <211> 91
 <212> PRT
 <213> Homo sapiens

<400> 75

Met Leu Arg Pro Ser Glu Trp Asn Arg Asp Thr Leu Pro Ser Asn Met
 1 5 10 15

Tyr Gln Lys Asn Gly Leu His His Gly Lys Tyr Ala Val Lys Lys Ser
 20 25 30

Arg Arg Thr Asp Val Glu Asp Leu Thr Pro Asn Pro Lys Lys Leu Leu
 35 40 45

Gln Ile Gly Asn Glu Leu Arg Lys Leu Asn Lys Val Ile Ser Asp Leu
 50 55 60

Thr Pro Val Ser Glu Leu Pro Leu Thr Ala Arg Pro Arg Ser Arg Lys
 65 70 75 80

Glu Lys Asn Ser Trp Leu Pro Glu Leu Val Gly
 85 90

<210> 76
 <211> 849
 <212> PRT
 <213> Homo sapiens

<400> 76

Met Ser Asp Thr Arg Arg Arg Val Lys Val Tyr Thr Leu Asn Glu Asp
 1 5 10 15

Arg Gln Trp Asp Asp Arg Gly Thr Gly His Val Ser Ser Thr Tyr Val
 20 25 30

Glu Glu Leu Lys Gly Met Ser Leu Leu Val Arg Ala Glu Ser Asp Gly
 35 40 45

Ser Leu Leu Leu Glu Ser Lys Ile Asn Pro Asn Thr Ala Tyr Gln Lys
50 55 60

Gln Gln Asp Thr Leu Ile Val Trp Ser Glu Ala Glu Asn Tyr Asp Leu
65 70 75 80

Ala Leu Ser Phe Gln Glu Lys Ala Gly Cys Asp Glu Ile Trp Glu Lys
85 90 95

Ile Cys Gln Val Gln Gly Lys Asp Pro Ser Val Glu Val Thr Gln Asp
100 105 110

Leu Ile Asp Glu Ser Glu Glu Glu Arg Phe Glu Glu Met Pro Glu Thr
115 120 125

Ser His Leu Ile Asp Leu Pro Thr Cys Glu Leu Asn Lys Leu Glu Glu
130 135 140

Ile Ala Asp Leu Val Thr Ser Val Leu Ser Ser Pro Ile Arg Arg Glu
145 150 155 160

Lys Leu Ala Leu Ala Leu Glu Asn Glu Gly Tyr Ile Lys Lys Leu Leu
165 170 175

Gln Leu Phe Gln Ala Cys Glu Asn Leu Glu Asn Thr Glu Gly Leu His
180 185 190

His Leu Tyr Glu Ile Ile Arg Gly Ile Leu Phe Leu Asn Lys Ala Thr
195 200 205

Leu Phe Glu Val Met Phe Ser Asp Glu Cys Ile Met Asp Val Val Gly
210 215 220

Cys Leu Glu Tyr Asp Pro Ala Leu Ala Gln Pro Lys Arg His Arg Glu
225 230 235 240

Phe Leu Thr Lys Thr Ala Lys Phe Lys Glu Val Ile Pro Ile Thr Asp
245 250 255

Ser Glu Leu Arg Gln Lys Ile His Gln Thr Tyr Arg Val Gln Tyr Ile
260 265 270

Gln Asp Ile Ile Leu Pro Thr Pro Ser Val Phe Glu Glu Asn Phe Leu
275 280 285

Ser Thr Leu Thr Ser Phe Ile Phe Phe Asn Lys Val Glu Ile Val Ser
290 295 300

Met	Leu	Gln	Glu	Asp	Glu	Lys	Phe	Leu	Ser	Glu	Val	Phe	Ala	Gln	Leu	305	310	315	320
Thr	Asp	Glu	Ala	Thr	Asp	Asp	Asp	Lys	Arg	Arg	Glu	Leu	Val	Asn	Phe	325	330	335	
Phe	Lys	Glu	Phe	Cys	Ala	Phe	Ser	Gln	Thr	Leu	Gln	Pro	Gln	Asn	Arg	340	345	350	
Asp	Ala	Phe	Phe	Lys	Thr	Leu	Ala	Lys	Leu	Gly	Ile	Leu	Pro	Ala	Leu	355	360	365	
Glu	Ile	Val	Met	Gly	Met	Asp	Asp	Leu	Gln	Val	Arg	Ser	Ala	Ala	Thr	370	375	380	
Asp	Ile	Phe	Ser	Tyr	Leu	Val	Glu	Phe	Ser	Pro	Ser	Met	Val	Arg	Glu	385	390	395	400
Phe	Val	Met	Gln	Glu	Ala	Gln	Gln	Ser	Asp	Asp	Asp	Ile	Leu	Leu	Ile	405	410	415	
Asn	Val	Val	Ile	Glu	Gln	Met	Ile	Cys	Asp	Thr	Asp	Pro	Glu	Leu	Gly	420	425	430	
Gly	Ala	Val	Gln	Leu	Met	Gly	Leu	Leu	Arg	Thr	Leu	Ile	Asp	Pro	Glu	435	440	445	
Asn	Met	Leu	Ala	Thr	Thr	Asn	Lys	Thr	Glu	Lys	Ser	Glu	Phe	Leu	Asn	450	455	460	
Phe	Phe	Tyr	Asn	His	Cys	Met	His	Val	Leu	Thr	Ala	Pro	Leu	Leu	Thr	465	470	475	480
Asn	Thr	Ser	Glu	Asp	Lys	Cys	Glu	Lys	Asp	Phe	Phe	Leu	Lys	His	Tyr	485	490	495	
Arg	Tyr	Ser	Trp	Ser	Phe	Ile	Cys	Thr	Pro	Ser	His	Ser	His	Ser	His	500	505	510	
Ser	Thr	Pro	Ser	Ser	Ser	Ile	Ser	Gln	Asp	Asn	Ile	Val	Gly	Ser	Asn	515	520	525	
Lys	Asn	Asn	Thr	Ile	Cys	Pro	Asp	Asn	Tyr	Gln	Thr	Ala	Gln	Leu	Leu	530	535	540	
Ala	Leu	Ile	Leu	Glu	Leu	Leu	Thr	Phe	Cys	Val	Glu	His	His	Thr	Tyr	545	550	555	560

His Ile Lys Asn Tyr Ile Met Asn Lys Asp Leu Leu Arg Arg Val Leu
 565 570 575

Val Leu Met Asn Ser Lys His Thr Phe Leu Ala Leu Cys Ala Leu Arg
 580 585 590

Phe Met Arg Arg Ile Ile Gly Leu Lys Asp Glu Phe Tyr Asn Arg Tyr
 595 600 605

Ile Thr Lys Gly Asn Leu Phe Glu Pro Val Ile Asn Ala Leu Leu Asp
 610 615 620

Asn Gly Thr Arg Tyr Asn Leu Leu Asn Ser Ala Val Ile Glu Leu Phe
 625 630 635 640

Glu Phe Ile Arg Val Glu Asp Ile Lys Ser Leu Thr Ala His Ile Val
 645 650 655

Glu Asn Phe Tyr Lys Ala Leu Glu Ser Ile Glu Tyr Val Gln Thr Phe
 660 665 670

Lys Gly Leu Lys Thr Lys Tyr Glu Gln Glu Lys Asp Arg Gln Asn Gln
 675 680 685

Lys Leu Asn Ser Val Pro Ser Ile Leu Arg Ser Asn Arg Phe Arg Arg
 690 695 700

Asp Ala Lys Ala Leu Glu Glu Asp Glu Glu Met Trp Phe Asn Glu Asp
 705 710 715 720

Glu Glu Glu Glu Gly Lys Ala Val Val Ala Pro Val Glu Lys Pro Lys
 725 730 735

Pro Glu Asp Asp Phe Pro Asp Asn Tyr Glu Lys Phe Met Glu Thr Lys
 740 745 750

Lys Ala Lys Glu Ser Glu Asp Lys Glu Asn Leu Pro Lys Arg Thr Ser
 755 760 765

Pro Gly Gly Phe Lys Phe Thr Phe Ser His Ser Ala Ser Ala Ala Asn
 770 775 780

Gly Thr Asn Ser Lys Ser Val Val Ala Gln Ile Pro Pro Ala Thr Ser
 785 790 795 800

Asn Gly Ser Ser Ser Lys Thr Thr Asn Leu Pro Thr Ser Val Thr Ala
 805 810 815

Thr Lys Gly Ser Leu Val Gly Leu Val Asp Tyr Pro Asp Asp Glu Glu
820 825 830

Glu Asp Glu Glu Glu Glu Ser Ser Pro Arg Lys Arg Pro Arg Leu Gly
835 840 845

Ser

<210> 77
<211> 214
<212> PRT
<213> Homo sapiens

<400> 77

Met Ser Gly Gly Gln Thr Glu Gly Arg Val Pro Val Phe Ser His Glu
1 5 10 15

Val Val Pro Asp His Leu Arg Thr Lys Pro Asp Pro Glu Val Glu Glu
20 25 30

Gln Glu Lys Gln Leu Thr Thr Asp Ala Ala Arg Ile Gly Ala Asp Ala
35 40 45

Ala Gln Lys Gln Ile Gln Ser Leu Asn Lys Met Cys Ser Asn Leu Leu
50 55 60

Glu Lys Ile Ser Lys Glu Glu Arg Glu Ser Glu Ser Gly Gly Leu Arg
65 70 75 80

Pro Asn Lys Gln Thr Phe Asn Pro Thr Asp Thr Asn Ala Leu Val Ala
85 90 95

Ala Val Ala Phe Gly Lys Gly Leu Ser Asn Trp Arg Pro Ser Gly Ser
100 105 110

Ser Gly Pro Gly Gln Ala Gly Gln Pro Gly Ala Gly Thr Ile Leu Ala
115 120 125

Gly Thr Ser Gly Leu Gln Gln Val Gln Met Ala Gly Ala Pro Ser Gln
130 135 140

Gln Gln Pro Met Leu Ser Gly Val Gln Met Ala Gln Ala Gly Gln Pro
145 150 155 160

Gly Lys Met Pro Ser Gly Ile Lys Thr Asn Ile Lys Ser Ala Ser Met
165 170 175

His Pro Tyr Gln Arg Pro Ser Cys Leu Gly Phe Ile Leu Ala Ile Pro
 180 185 190

Leu Arg Arg Lys Val Lys Lys Leu Leu Gly Gln Glu Gly Lys Lys Asn
 195 200 205

Ala His Leu Gln Leu Trp
 210

<210> 78
 <211> 1404
 <212> PRT
 <213> Homo sapiens

<400> 78

Met Ala Trp Lys Thr Leu Pro Ile Tyr Leu Leu Leu Leu Leu Ser Val
 1 5 10 15

Phe Val Ile Gln Gln Val Ser Ser Gln Asp Leu Ser Ser Cys Ala Gly
 20 25 30

Arg Cys Gly Glu Gly Tyr Ser Arg Asp Ala Thr Cys Asn Cys Asp Tyr
 35 40 45

Asn Cys Gln His Tyr Met Glu Cys Cys Pro Asp Phe Lys Arg Val Cys
 50 55 60

Thr Ala Glu Leu Ser Cys Lys Gly Arg Cys Phe Glu Ser Phe Glu Arg
 65 70 75 80

Gly Arg Glu Cys Asp Cys Asp Ala Gln Cys Lys Lys Tyr Asp Lys Cys
 85 90 95

Cys Pro Asp Tyr Glu Ser Phe Cys Ala Glu Val His Asn Pro Thr Ser
 100 105 110

Pro Pro Ser Ser Lys Lys Ala Pro Pro Pro Ser Gly Ala Ser Gln Thr
 115 120 125

Ile Lys Ser Thr Thr Lys Arg Ser Pro Lys Pro Pro Asn Lys Lys Lys
 130 135 140

Thr Lys Lys Val Ile Glu Ser Glu Glu Ile Thr Glu Glu His Ser Val
 145 150 155 160

Ser Glu Asn Gln Glu Ser Ser Ser Ser Ser Ser Ser Ser Ser Ser
 165 170 175

Ser Thr Ile Arg Lys Ile Lys Ser Ser Lys Asn Ser Ala Ala Asn Arg

180	185	190
Glu Leu Gln Lys Lys Leu Lys Val Lys Asp Asn Lys Lys Asn Arg Thr		
195	200	205
Lys Lys Lys Pro Thr Pro Lys Pro Pro Val Val Asp Glu Ala Gly Ser		
210	215	220
Gly Leu Asp Asn Gly Asp Phe Lys Val Thr Thr Pro Asp Thr Ser Thr		
225	230	235
Thr Gln His Asn Lys Val Ser Thr Ser Pro Lys Ile Thr Thr Ala Lys		
	245	250
Pro Ile Asn Pro Arg Pro Ser Leu Pro Pro Asn Ser Asp Thr Ser Lys		
	260	265
Glu Thr Ser Leu Thr Val Asn Lys Glu Thr Thr Val Glu Thr Lys Glu		
	275	280
Thr Thr Thr Thr Asn Lys Gln Thr Ser Thr Asp Gly Lys Glu Lys Thr		
	290	295
Thr Ser Ala Lys Glu Thr Gln Ser Ile Glu Lys Thr Ser Ala Lys Asp		
305	310	315
Leu Ala Pro Thr Ser Lys Val Leu Ala Lys Pro Thr Pro Lys Ala Glu		
	325	330
Thr Thr Thr Lys Gly Pro Ala Leu Thr Thr Pro Lys Glu Pro Thr Pro		
	340	345
Thr Thr Pro Lys Glu Pro Ala Ser Thr Thr Pro Lys Glu Pro Thr Pro		
	355	360
Thr Thr Ile Lys Ser Ala Pro Thr Thr Pro Lys Glu Pro Ala Pro Thr		
	370	375
Thr Thr Lys Ser Ala Pro Thr Thr Pro Lys Glu Pro Ala Pro Thr Thr		
385	390	395
Thr Lys Glu Pro Ala Pro Thr Thr Pro Lys Glu Pro Ala Pro Thr Thr		
	405	410
Thr Lys Glu Pro Ala Pro Thr Thr Thr Lys Ser Ala Pro Thr Thr Pro		
	420	425
Lys Glu Pro Ala Pro Thr Thr Pro Lys Lys Pro Ala Pro Thr Thr Pro		

435																	
Lys	Glu	Pro	Ala	Pro	Thr	Thr	Pro	Lys	Glu	Pro	Thr	Pro	Thr	Thr	Pro		
450						455					460						
Lys	Glu	Pro	Ala	Pro	Thr	Thr	Lys	Glu	Pro	Ala	Pro	Thr	Thr	Pro	Lys		
465					470					475					480		
Glu	Pro	Ala	Pro	Thr	Ala	Pro	Lys	Lys	Pro	Ala	Pro	Thr	Thr	Pro	Lys		
				485					490					495			
Glu	Pro	Ala	Pro	Thr	Thr	Pro	Lys	Glu	Pro	Ala	Pro	Thr	Thr	Thr	Lys		
			500					505					510				
Glu	Pro	Ser	Pro	Thr	Thr	Pro	Lys	Glu	Pro	Ala	Pro	Thr	Thr	Thr	Lys		
		515					520					525					
Ser	Ala	Pro	Thr	Thr	Thr	Lys	Glu	Pro	Ala	Pro	Thr	Thr	Thr	Lys	Ser		
	530					535					540						
Ala	Pro	Thr	Thr	Pro	Lys	Glu	Pro	Ser	Pro	Thr	Thr	Thr	Lys	Glu	Pro		
545					550					555					560		
Ala	Pro	Thr	Thr	Pro	Lys	Glu	Pro	Ala	Pro	Thr	Thr	Pro	Lys	Lys	Pro		
				565					570					575			
Ala	Pro	Thr	Thr	Pro	Lys	Glu	Pro	Ala	Pro	Thr	Thr	Pro	Lys	Glu	Pro		
				580				585					590				
Ala	Pro	Thr	Thr	Thr	Lys	Lys	Pro	Ala	Pro	Thr	Thr	Pro	Lys	Glu	Pro		
		595					600						605				
Ala	Pro	Thr	Thr	Pro	Lys	Glu	Thr	Ala	Pro	Thr	Thr	Pro	Lys	Lys	Leu		
	610					615					620						
Thr	Pro	Thr	Thr	Pro	Glu	Lys	Leu	Ala	Pro	Thr	Thr	Pro	Glu	Lys	Pro		
625					630					635					640		
Ala	Pro	Thr	Thr	Pro	Glu	Glu	Leu	Ala	Pro	Thr	Thr	Pro	Glu	Glu	Pro		
				645					650					655			
Thr	Pro	Thr	Thr	Pro	Glu	Glu	Pro	Ala	Pro	Thr	Thr	Pro	Lys	Ala	Ala		
			660					665					670				
Ala	Pro	Asn	Thr	Pro	Lys	Glu	Pro	Ala	Pro	Thr	Thr	Pro	Lys	Glu	Pro		
		675					680						685				
Ala	Pro	Thr	Thr	Pro	Lys	Glu	Pro	Ala	Pro	Thr	Thr	Pro	Lys	Glu	Thr		

690					695					700						
Ala	Pro	Thr	Thr	Pro	Lys	Gly	Thr	Ala	Pro	Thr	Thr	Leu	Lys	Glu	Pro	
708					710					715					720	
Ala	Pro	Thr	Thr	Pro	Lys	Lys	Pro	Ala	Pro	Lys	Glu	Leu	Ala	Pro	Thr	
				725					730					735		
Thr	Thr	Lys	Glu	Pro	Thr	Ser	Thr	Thr	Cys	Asp	Lys	Pro	Ala	Pro	Thr	
			740					745					750			
Thr	Pro	Lys	Gly	Thr	Ala	Pro	Thr	Thr	Pro	Lys	Glu	Pro	Ala	Pro	Thr	
		755					760					765				
Thr	Pro	Lys	Glu	Pro	Ala	Pro	Thr	Thr	Pro	Lys	Gly	Thr	Ala	Pro	Thr	
		770					775					780				
Thr	Leu	Lys	Glu	Pro	Ala	Pro	Thr	Thr	Pro	Lys	Lys	Pro	Ala	Pro	Lys	
785					790					795					800	
Glu	Leu	Ala	Pro	Thr	Thr	Thr	Lys	Gly	Pro	Thr	Ser	Thr	Thr	Ser	Asp	
			805						810					815		
Lys	Pro	Ala	Pro	Thr	Thr	Pro	Lys	Glu	Thr	Ala	Pro	Thr	Thr	Pro	Lys	
			820					825						830		
Glu	Pro	Ala	Pro	Thr	Thr	Pro	Lys	Lys	Pro	Ala	Pro	Thr	Thr	Pro	Glu	
		835					840					845				
Thr	Pro	Pro	Pro	Thr	Thr	Ser	Glu	Val	Ser	Thr	Pro	Thr	Thr	Thr	Lys	
		850				855					860					
Glu	Pro	Thr	Thr	Ile	His	Lys	Ser	Pro	Asp	Glu	Ser	Thr	Pro	Glu	Leu	
865					870					875					880	
Ser	Ala	Glu	Pro	Thr	Pro	Lys	Ala	Leu	Glu	Asn	Ser	Pro	Lys	Glu	Pro	
			885						890					895		
Gly	Val	Pro	Thr	Thr	Lys	Thr	Pro	Ala	Ala	Thr	Lys	Pro	Glu	Met	Thr	
			900					905					910			
Thr	Thr	Ala	Lys	Asp	Lys	Thr	Thr	Glu	Arg	Asp	Leu	Arg	Thr	Thr	Pro	
		915					920					925				
Glu	Thr	Thr	Thr	Ala	Ala	Pro	Lys	Met	Thr	Lys	Glu	Thr	Ala	Thr	Thr	
		930				935					940					
Thr	Glu	Lys	Thr	Thr	Glu	Ser	Lys	Ile	Thr	Ala	Thr	Thr	Thr	Gln	Val	

945		950		955		960
Thr Ser Thr Thr Thr Gln Asp Thr Thr Pro Phe Lys Ile Thr Thr Leu						
		965		970		975
Lys Thr Thr Thr Leu Ala Pro Lys Val Thr Thr Thr Lys Lys Thr Ile						
		980		985		990
Thr Thr Thr Glu Ile Met Asn Lys Pro Glu Glu Thr Ala Lys Pro Lys						
		995		1000		1005
Asp Arg Ala Thr Asn Ser Lys Ala Thr Thr Pro Lys Pro Gln Lys						
		1010		1015		1020
Pro Thr Lys Ala Pro Lys Lys Pro Thr Ser Thr Lys Lys Pro Lys						
		1025		1030		1035
Thr Met Pro Arg Val Arg Lys Pro Lys Thr Thr Pro Thr Pro Arg						
		1040		1045		1050
Lys Met Thr Ser Thr Met Pro Glu Leu Asn Pro Thr Ser Arg Ile						
		1055		1060		1065
Ala Glu Ala Met Leu Gln Thr Thr Thr Arg Pro Asn Gln Thr Pro						
		1070		1075		1080
Asn Ser Lys Leu Val Glu Val Asn Pro Lys Ser Glu Asp Ala Gly						
		1085		1090		1095
Gly Ala Glu Gly Glu Thr Pro His Met Leu Leu Arg Pro His Val						
		1100		1105		1110
Phe Met Pro Glu Val Thr Pro Asp Met Asp Tyr Leu Pro Arg Val						
		1115		1120		1125
Pro Asn Gln Gly Ile Ile Ile Asn Pro Met Leu Ser Asp Glu Thr						
		1130		1135		1140
Asn Ile Cys Asn Gly Lys Pro Val Asp Gly Leu Thr Thr Leu Arg						
		1145		1150		1155
Asn Gly Thr Leu Val Ala Phe Arg Gly His Tyr Phe Trp Met Leu						
		1160		1165		1170
Ser Pro Phe Ser Pro Pro Ser Pro Ala Arg Arg Ile Thr Glu Val						
		1175		1180		1185
Trp Gly Ile Pro Ser Pro Ile Asp Thr Val Phe Thr Arg Cys Asn						

1190							1195						1200	
Cys	Glu	Gly	Lys	Thr	Phe	Phe	Phe	Lys	Asp	Ser	Gln	Tyr	Trp	Arg
1205						1210					1215			
Phe	Thr	Asn	Asp	Ile	Lys	Asp	Ala	Gly	Tyr	Pro	Lys	Pro	Ile	Phe
1220						1225					1230			
Lys	Gly	Phe	Gly	Gly	Leu	Thr	Gly	Gln	Ile	Val	Ala	Ala	Leu	Ser
1235						1240					1245			
Thr	Ala	Lys	Tyr	Lys	Asn	Trp	Pro	Glu	Ser	Val	Tyr	Phe	Phe	Lys
1250						1255					1260			
Arg	Gly	Gly	Ser	Ile	Gln	Gln	Tyr	Ile	Tyr	Lys	Gln	Glu	Pro	Val
1265						1270					1275			
Gln	Lys	Cys	Pro	Gly	Arg	Arg	Pro	Ala	Leu	Asn	Tyr	Pro	Val	Tyr
1280						1285					1290			
Gly	Glu	Thr	Thr	Gln	Val	Arg	Arg	Arg	Arg	Phe	Glu	Arg	Ala	Ile
1295						1300					1305			
Gly	Pro	Ser	Gln	Thr	His	Thr	Ile	Arg	Ile	Gln	Tyr	Ser	Pro	Ala
1310						1315					1320			
Arg	Leu	Ala	Tyr	Gln	Asp	Lys	Gly	Val	Leu	His	Asn	Glu	Val	Lys
1325						1330					1335			
Val	Ser	Ile	Leu	Trp	Arg	Gly	Leu	Pro	Asn	Val	Val	Thr	Ser	Ala
1340						1345					1350			
Ile	Ser	Leu	Pro	Asn	Ile	Arg	Lys	Pro	Asp	Gly	Tyr	Asp	Tyr	Tyr
1355						1360					1365			
Ala	Phe	Ser	Lys	Asp	Gln	Tyr	Tyr	Asn	Ile	Asp	Val	Pro	Ser	Arg
1370						1375					1380			
Thr	Ala	Arg	Ala	Ile	Thr	Thr	Arg	Ser	Gly	Gln	Thr	Leu	Ser	Lys
1385						1390					1395			
Val	Trp	Tyr	Asn	Cys	Pro									
1400														

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 <211> 784
 <212> PRT
 <213> Homo sapiens

<400> 79

Met Val Gly Lys His Leu Gly Ala Arg Lys Asp His Pro Gly Leu Lys
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Ala Lys Glu Asn Asp Glu Asn Cys Gly Pro Thr Thr Thr Val Phe Val
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Gly Asn Ile Ser Glu Lys Ala Ser Asp Met Leu Ile Arg Gln Leu Leu
35 40 45

Ala Lys Cys Gly Leu Val Leu Ser Trp Lys Arg Val Gln Gly Ala Ser
50 55 60

Gly Lys Leu Gln Ala Phe Gly Phe Cys Glu Tyr Lys Glu Pro Glu Ser
65 70 75 80

Thr Leu Arg Ala Leu Arg Leu Leu His Asp Leu Gln Ile Gly Glu Lys
85 90 95

Lys Leu Leu Val Lys Val Asp Ala Lys Thr Lys Ala Gln Leu Asp Glu
100 105 110

Trp Lys Ala Lys Lys Lys Ala Ser Asn Gly Asn Ala Arg Pro Glu Thr
115 120 125

Val Thr Asn Asp Asp Glu Glu Ala Leu Asp Glu Glu Thr Lys Arg Arg
130 135 140

Asp Gln Met Ile Lys Gly Ala Ile Glu Val Leu Ile Arg Glu Tyr Ser
145 150 155 160

Ser Glu Leu Asn Ala Pro Ser Gln Glu Ser Asp Ser His Pro Arg Lys
165 170 175

Lys Lys Lys Glu Lys Lys Glu Asp Ile Phe Arg Arg Phe Pro Val Ala
180 185 190

Pro Leu Ile Pro Tyr Pro Leu Ile Thr Lys Glu Asp Ile Asn Ala Ile
195 200 205

Glu Met Glu Glu Asp Lys Arg Asp Leu Ile Ser Arg Glu Ile Ser Lys
210 215 220

Phe Arg Asp Thr His Lys Lys Leu Glu Glu Glu Lys Gly Lys Lys Glu
225 230 235 240

Lys Glu Arg Gln Glu Ile Glu Lys Glu Arg Arg Glu Arg Glu Arg Glu
245 250 255

Arg Glu Arg Glu Arg Glu Arg Arg Glu Arg Glu Arg Glu Arg Glu Arg
260 265 270

Glu Arg Glu Arg Glu Lys Glu Lys Glu Arg Glu Arg Glu Arg Glu Arg
275 280 285

Asp Arg Asp Arg Asp Arg Thr Lys Glu Arg Asp Arg Asp Arg Asp Arg
290 295 300

Glu Arg Asp Arg Asp Arg Asp Arg Glu Arg Ser Ser Asp Arg Asn Lys
305 310 315 320

Asp Arg Ser Arg Ser Arg Glu Lys Ser Arg Asp Arg Glu Arg Glu Arg
325 330 335

Glu Arg Glu Arg Glu Arg Glu Arg Glu Arg Glu Arg Glu Arg Glu Arg
340 345 350

Glu Arg Glu Arg Glu Arg Glu Arg Glu Arg Glu Arg Glu Arg Glu Arg
355 360 365

Asp Lys Lys Arg Asp Arg Glu Glu Asp Glu Glu Asp Ala Tyr Glu Arg
370 375 380

Arg Lys Leu Glu Arg Lys Leu Arg Glu Lys Glu Ala Ala Tyr Gln Glu
385 390 395 400

Arg Leu Lys Asn Trp Glu Ile Arg Glu Arg Lys Lys Thr Arg Glu Tyr
405 410 415

Glu Lys Glu Ala Glu Arg Glu Glu Glu Arg Arg Arg Glu Met Ala Lys
420 425 430

Glu Ala Lys Arg Leu Lys Glu Phe Leu Glu Asp Tyr Asp Asp Asp Arg
435 440 445

Asp Asp Pro Lys Tyr Tyr Arg Gly Ser Ala Leu Gln Lys Arg Leu Arg
450 455 460

Asp Arg Glu Lys Glu Met Glu Ala Asp Glu Arg Asp Arg Lys Arg Glu
465 470 475 480

Lys Glu Glu Leu Glu Glu Ile Arg Gln Arg Leu Leu Ala Glu Gly His
485 490 495

Pro Asp Pro Asp Ala Glu Leu Gln Arg Met Glu Gln Glu Ala Glu Arg
500 505 510

Arg Arg Gln Pro Gln Ile Lys Gln Glu Pro Glu Ser Glu Glu Glu Glu
 515 520 525

Glu Glu Lys Gln Glu Lys Glu Glu Lys Arg Glu Glu Pro Met Glu Glu
 530 535 540

Glu Glu Glu Pro Glu Gln Lys Pro Cys Leu Lys Pro Thr Leu Arg Pro
 545 550 555 560

Ile Ser Ser Ala Pro Ser Val Ser Ser Ala Ser Gly Asn Ala Thr Pro
 565 570 575

Asn Thr Pro Gly Asp Glu Ser Pro Cys Gly Ile Ile Ile Pro His Glu
 580 585 590

Asn Ser Pro Asp Gln Gln Gln Pro Glu Glu His Arg Pro Lys Ile Gly
 595 600 605

Leu Ser Leu Lys Leu Gly Ala Ser Asn Ser Pro Gly Gln Pro Asn Ser
 610 615 620

Val Lys Arg Lys Lys Leu Pro Val Asp Ser Val Phe Asn Lys Phe Glu
 625 630 635 640

Asp Glu Asp Ser Asp Asp Val Pro Arg Lys Arg Lys Leu Val Pro Leu
 645 650 655

Asp Tyr Gly Glu Asp Asp Lys Asn Ala Thr Lys Gly Thr Val Asn Thr
 660 665 670

Glu Glu Lys Arg Lys His Ile Lys Ser Leu Ile Glu Lys Ile Pro Thr
 675 680 685

Ala Lys Pro Glu Leu Phe Ala Tyr Pro Leu Asp Trp Ser Ile Val Asp
 690 695 700

Ser Ile Leu Met Glu Arg Arg Ile Arg Pro Trp Ile Asn Lys Lys Ile
 705 710 715 720

Ile Glu Tyr Ile Gly Glu Glu Glu Ala Thr Leu Val Asp Phe Val Cys
 725 730 735

Ser Lys Val Met Ala His Ser Ser Pro Gln Ser Ile Leu Asp Asp Val
 740 745 750

Ala Met Val Leu Asp Glu Glu Ala Glu Val Phe Ile Val Lys Met Trp
 755 760 765

Arg Leu Leu Ile Tyr Glu Thr Glu Ala Lys Lys Ile Gly Leu Val Lys
770 775 780

<210> 80
<211> 735
<212> PRT
<213> Homo sapiens

<400> 80

Lys Cys Gly Leu Val Leu Ser Trp Lys Arg Val Gln Gly Ala Ser Gly
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Lys Leu Gln Ala Phe Gly Phe Cys Glu Tyr Lys Glu Pro Glu Ser Thr
20 25 30

Leu Arg Ala Leu Arg Leu Leu His Asp Leu Gln Ile Gly Glu Lys Lys
35 40 45

Leu Leu Val Lys Val Asp Ala Lys Thr Lys Ala Gln Leu Asp Glu Trp
50 55 60

Lys Ala Lys Lys Lys Ala Ser Asn Gly Asn Ala Arg Pro Glu Thr Val
65 70 75 80

Thr Asn Asp Asp Glu Glu Ala Leu Asp Glu Glu Thr Lys Arg Arg Asp
85 90 95

Gln Met Ile Lys Gly Ala Ile Glu Val Leu Ile Arg Glu Tyr Ser Ser
100 105 110

Glu Leu Asn Ala Pro Ser Gln Glu Ser Asp Ser His Pro Arg Lys Lys
115 120 125

Lys Lys Glu Lys Lys Glu Asp Ile Phe Arg Arg Phe Pro Val Ala Pro
130 135 140

Leu Ile Pro Tyr Pro Leu Ile Thr Lys Glu Asp Ile Asn Ala Ile Glu
145 150 155 160

Met Glu Glu Asp Lys Arg Asp Leu Ile Ser Arg Glu Ile Ser Lys Phe
165 170 175

Arg Asp Thr His Lys Lys Leu Glu Glu Glu Lys Gly Lys Lys Glu Lys
180 185 190

Glu Arg Gln Glu Ile Glu Lys Glu Arg Arg Glu Arg Glu Arg Glu Arg
195 200 205

Glu Arg Glu Arg Glu Arg Arg Glu Arg Glu Arg Glu Arg Glu Arg Glu
 210 215 220

Arg Glu Arg Glu Lys Glu Lys Glu Arg Glu Arg Glu Arg Glu Arg Asp
 225 230 235 240

Arg Asp Arg Asp Arg Thr Lys Glu Arg Asp Arg Asp Arg Asp Arg Glu
 245 250 255

Arg Asp Arg Asp Arg Asp Arg Glu Arg Ser Ser Asp Arg Asn Lys Asp
 260 265 270

Arg Ser Arg Ser Arg Glu Lys Ser Arg Asp Arg Glu Arg Glu Arg Glu
 275 280 285

Arg Glu Arg Glu Arg Glu Arg Glu Arg Glu Arg Glu Arg Glu Arg Glu
 290 295 300

Arg Glu Arg Glu Arg Glu Arg Glu Arg Glu Arg Glu Arg Glu Lys Asp
 305 310 315 320

Lys Lys Arg Asp Arg Glu Glu Asp Glu Glu Asp Ala Tyr Glu Arg Arg
 325 330 335

Lys Leu Glu Arg Lys Leu Arg Glu Lys Glu Ala Ala Tyr Gln Glu Arg
 340 345 350

Leu Lys Asn Trp Glu Ile Arg Glu Arg Lys Lys Thr Arg Glu Tyr Glu
 355 360 365

Lys Glu Ala Glu Arg Glu Glu Glu Arg Arg Arg Glu Met Ala Lys Glu
 370 375 380

Ala Lys Arg Leu Lys Glu Phe Leu Glu Asp Tyr Asp Asp Asp Arg Asp
 385 390 395 400

Asp Pro Lys Tyr Tyr Arg Gly Ser Ala Leu Gln Lys Arg Leu Arg Asp
 405 410 415

Arg Glu Lys Glu Met Glu Ala Asp Glu Arg Asp Arg Lys Arg Glu Lys
 420 425 430

Glu Glu Leu Glu Glu Ile Arg Gln Arg Leu Leu Ala Glu Gly His Pro
 435 440 445

Asp Pro Asp Ala Glu Leu Gln Arg Met Glu Gln Glu Ala Glu Arg Arg
 450 455 460

Arg	Gln	Pro	Gln	Ile	Lys	Gln	Glu	Pro	Glu	Ser	Glu	Glu	Glu	Glu	Glu		465	470	475	480
Glu	Lys	Gln	Glu	Lys	Glu	Glu	Lys	Arg	Glu	Glu	Pro	Met	Glu	Glu	Glu			485	490	495
Glu	Glu	Pro	Glu	Gln	Lys	Pro	Cys	Leu	Lys	Pro	Thr	Leu	Arg	Pro	Ile			500	505	510
Ser	Ser	Ala	Pro	Ser	Val	Ser	Ser	Ala	Ser	Gly	Asn	Ala	Thr	Pro	Asn		515	520	525	
Thr	Pro	Gly	Asp	Glu	Ser	Pro	Cys	Gly	Ile	Ile	Ile	Pro	His	Glu	Asn		530	535	540	
Ser	Pro	Asp	Gln	Gln	Gln	Pro	Glu	Glu	His	Arg	Pro	Lys	Ile	Gly	Leu		545	550	555	560
Ser	Leu	Lys	Leu	Gly	Ala	Ser	Asn	Ser	Pro	Gly	Gln	Pro	Asn	Ser	Val			565	570	575
Lys	Arg	Lys	Lys	Leu	Pro	Val	Asp	Ser	Val	Phe	Asn	Lys	Phe	Glu	Asp			580	585	590
Glu	Asp	Ser	Asp	Asp	Val	Pro	Arg	Lys	Arg	Lys	Leu	Val	Pro	Leu	Asp		595	600	605	
Tyr	Gly	Glu	Asp	Asp	Lys	Asn	Ala	Thr	Lys	Gly	Thr	Val	Asn	Thr	Glu		610	615	620	
Glu	Lys	Arg	Lys	His	Ile	Lys	Ser	Leu	Ile	Glu	Lys	Ile	Pro	Thr	Ala		625	630	635	640
Lys	Pro	Glu	Leu	Phe	Ala	Tyr	Pro	Leu	Asp	Trp	Ser	Ile	Val	Asp	Ser			645	650	655
Ile	Leu	Met	Glu	Arg	Arg	Ile	Arg	Pro	Trp	Ile	Asn	Lys	Lys	Ile	Ile		660	665	670	
Glu	Tyr	Ile	Gly	Glu	Glu	Glu	Ala	Thr	Leu	Val	Asp	Phe	Val	Cys	Ser		675	680	685	
Lys	Val	Met	Ala	His	Ser	Ser	Pro	Gln	Ser	Ile	Leu	Asp	Asp	Val	Ala		690	695	700	
Met	Val	Leu	Asp	Glu	Glu	Ala	Glu	Val	Phe	Ile	Val	Lys	Met	Trp	Arg		705	710	715	720

Leu	Leu	Ile	Tyr	Glu	Thr	Glu	Ala	Lys	Lys	Ile	Gly	Leu	Val	Lys
				725					730					735